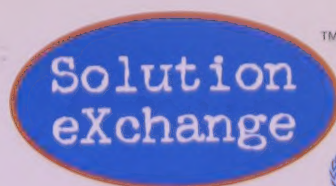




**ICT for
Development
Community**



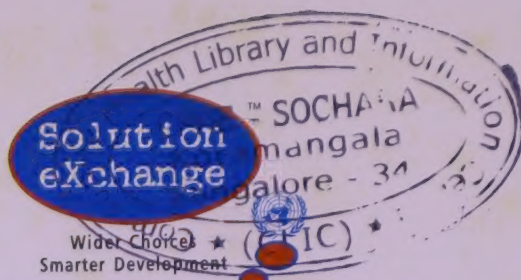
Wider Choices
Smarter Development



Consolidated Reply

Spreading the ICT Revolution in Rural India- Experiences; Examples





15386
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Sophie

Solution Exchange

An Initiative of the United Nations in India

In a country as large and vibrant as India, development workers operate in knowledge-rich environments where continuous experimentation and implementation of innovative ideas goes on. While some of this knowledge has been codified and shared, much of the larger pool knowledge gained through these experiences remain undocumented, out of the reach of practitioners, and in danger of being forgotten.

Attempting to harness this knowledge, the United Nations agencies in India support this knowledge-sharing initiative to help improve development effectiveness in support of achieving the objectives of India's Five-Year Plans and the Millennium Development Goals (MDGs).

The UN's Solution Exchange initiative builds **Communities of Practice (CoPs)**, by connecting people with similar concerns and interests through email groups and face-to-face interactions. The objective is to leverage India's knowledge pool to help ensure that no one "reinvents the wheel."

So far, Solution Exchange in India has established eleven Communities of Practice:

- AIDS
- Decentralized
- Disaster Management
- Education
- Environment
- Food and Nutrition
- Gender
- Child Health

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SOCHARA
Community Health
Library and Information Centre (CLIC)
Community Health Cell
85/2, 1st Main, Maruthi Nagar, Madiwala.
Bengaluru - 560 068
Tel : (080) 25531518 email : clic@sochara.org
www.sochara.org



ICT for Development Community Health

Library and Informa

No. 367, Srinivasa Nilay

lain, I Block, Koramangala, Bar



Wider Choices
Smarter Development



The **ICT for Development** community provides information and communication technology and as an alternative means of livelihood, particularly for the grassroots communities of India.

THIS BOOK MUST BE RETURNED BY
THE DATE LAST STAMPED

Solution Exchange connects members of this Community and increases the effectiveness of their individual efforts, helping them share and apply each other's knowledge and experience. Through Solution Exchange, colleagues can turn to their peers across India for solutions to the day-to-day challenges they face.

Key Issues

- Promoting awareness of ICT's role in poverty alleviation and for livelihood opportunities
- ICT-enabled service delivery models
- Licensing and regulatory framework
- Synergizing and deploying communication tools and media to facilitate access to grassroots populations
- Generating locally relevant content in local languages, through facilitation tools and strategies
- Capacity-building of grassroots "knowledge workers"
- Bridging the digital divide by including the weaker and un-reached population in ICT strategies

For **further information** on the ICT for Development Community contact:

Resource Person and Moderator, ICT for Development Community, Solution Exchange

United Nations Educational, Scientific and Cultural Organization (UNESCO)
B-5/29, Safdarjung Enclave New Delhi 110029 India

Tel: 91-11-26713000 Extn: 207, Fax: 91-11-26713001

E-mail: se-ictd@solutionexchange-un.net.in

Go to [http:// www.solutionexchange-un.net.in](http://www.solutionexchange-un.net.in)

And click on the ICT for Development link

Consolidated Reply

Members of the ICT For Development Community are part of a moderated mail group. The primary interaction in the community is through email. A member poses a query to the community and other members respond based on their experience and knowledge. The query can seek advice, experiences, examples or referrals.

The responses received within the time limit provided, are used by the Resource Team to formulate a Consolidated Reply (CR), which is then share it with all the members. The purpose of the CR is to give members a range of possible solutions to the issue raised.

The CR consists of summary of the responses, comparative experiences shared by members, details about recommended resources (like reports, articles, books, organizations, websites and experts) and all the responses received. The Resource Team also provides additional research relevant to the issue. The moderation of the responses, research support, attractive format and short turn around time are some of the special features of a CR.

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**ICT for
Development
Community**



Wider Choices
Smarter Development



Solution Exchange ICT for Development Community Consolidated Reply

Query: Spreading the ICT Revolution in Rural India- Experiences; Examples

**Compiled by Sajan Venniyoor, Resource Person and Gitanjali Sah,
Research Associate
11 July 2007**

**From Sagarika Bose, NASSCOM Foundation, New Delhi
Posted 19 June 2007**

Dear Members,

NASSCOM Foundation was formed to promote social development through the application of ICT, for empowering and transforming the lives of the under-served. With this objective, we recently organized a seminar in New Delhi, along with Rural Marketing Agencies Association of India (RMAAI) on 'Spreading the ICT Revolution in Rural India'.

The discussions centered on the need for a more involved debate with the government and the role that public private partnerships (PPP) can play in ICT for development. The one question in particular that has left a mark is, why after almost a decade of ICT being applied to development, are we still talking about pilots and scaled pilots, and not of our successes beyond pilots?

At the session, there were two debates which got the audience thinking but which, given the limitations of time, were inconclusive. We would therefore like to seek insights and experiences from the Community that will help bring some resolution to these issues. Specifically, we would appreciate hearing from

members about lessons they have learned related to attempts to scale up successes in the following two areas:

- ICT applications and projects that have centered around the more limited goals of meeting basic needs of agrarian rural communities rather than geared towards creating an alternative economy
- ICT interventions that have helped develop rural communities from consumers to producers

I'd be grateful if members of the ICTD community could share experiences and examples from these areas, which could form the basis of a greater engagement with the government in ICT policy formulation, and for more focused PPP in ICT for Development.

Responses were received, with thanks, from

1. **[K. A. Raju](#)**, National Institute of Rural Development, Hyderabad
2. **Satish Jha**, Digital Partners, New Delhi, ([Response 1](#); [Response 2](#); [Response 3](#); [Response 4](#); [Response 5](#); [Response 6](#); [Response 7](#))
3. **D. S. K. Rao**, Cybermate Infotek Limited, Secundrabad ([Response 1](#); [Response 2](#))
4. **[Bill Thies](#)**, Massachusetts Institute of Technology (MIT), USA
5. **[Ashok Jhunjunwala](#)**, Indian Institute of Technology (IIT) Madras, Chennai
6. **[K. Rajasekharan](#)**, Kerala Institute of Local Administration (KILA), Thrissur
7. **[Anirban Mukerji](#)**, Independent Consultant, Bangalore
8. **[M. Moni](#)**, National Informatics Centre (NIC), New Delhi
9. **[Syed S. Kazi](#)**, Digital Empowerment Foundation, New Delhi
10. **[Amitav Nath](#)**, QUEST Alliance, Bangalore
11. **[Gaurav Chakraverty](#)**, The Energy and Resources Institute (TERI), New Delhi
12. **[Bhushan Ambadkar](#)**, Software Institute for Rural Development, Pune
13. **[R. Sujata](#)**, TVS-Electronics Ltd., Chennai
14. **Vineeta Dixit**, National Institute for Smart Government, New Delhi

(Response 1; Response 2)

15. Kris Dev, Transparency and Accountability Network, Chennai
([Response 1](#); [Response 2](#); [Response 3](#))
16. [Kadambari](#), Indian Society of Agribusiness Professionals, New Delhi
17. [Vikas Kanungo](#), The Society for Promotion of e-Governance (SPeG), New Delhi
18. [Mark Surman](#), Telecentre.org, Ottawa, Canada
19. [Vickram Crishna](#), Radiophony, Mumbai
20. [Shitalkumar Joshi](#), S. S. Mandal Sagroli Nanded, Sagroli
21. Ninad Vengurlekar, IL&FS, Mumbai ([Response 1](#); [Response 2](#))
22. [Ujval Parghi](#), Shree Kamdhenu Electronics Pvt. Ltd., Anand
23. [Geeta Malhotra](#), OneWorld South Asia, New Delhi
24. [Tanweer Azam](#), NASSCOM Foundation, New Delhi
25. [H. K. Mishra and B. N. Hiremath](#), Institute of Rural Management Anand (IRMA), Anand
26. [Rajen Varada](#), Technology for the People (TFTP), Bangalore
27. Ujjal Hazarika, NASSCOM Foundation, New Delhi ([Response 1](#); [Response 2](#))
28. [Deepa Prabhu](#), ICICI Bank, Mumbai
29. [Ramakrishnan D.](#), Gomathy Foundation, Tuticorin, Thoothukudi
30. [Prabaharan](#), Public Action, New Delhi
31. [M. V. Ananthakrishnan](#), Indian Institute of Technology (IIT) Bombay, Mumbai

Further contributions are welcome!

Summary of Responses
Comparative Experiences
Related Resources
Response in Full

Summary of Responses

Scalability and replication of ICTD projects in rural India depend on the right combination of factors like infrastructure, leadership, research, community involvement, strategic partnerships and provision of need-based and locale specific services. With the vision of spreading the 'ICT revolution' to rural areas, members shared examples of successful ICTD projects that moved beyond pilots, and discussed how and why some projects have been scaled up and replicated, while others have failed.

Respondents mentioned several **projects that have moved beyond pilots**. They listed social entrepreneurship projects like [Drishtee](#) and [SKS Microfinance](#) and projects initiated by corporations like ITC's [e-Choupal](#), Hindustan Lever's [i-Shakti](#) and Hewlett Packard's [photo training](#). Members also listed ICT projects in the agriculture sector that emerged from conferences in the late 1980s - [DICNIC](#), [AGRISNET](#), [AgRIS](#), [AGMARKNET](#), [SeedNet](#), and DACNET- and others that provide relevant information to agrarian communities like [eKrishi](#), [RASI](#) and [Soochna Se Samadhan](#).

Members cited ICT projects that provide services ranging from access to [land records](#), empowering [dairy farmers](#) and [marginalized women](#) and for providing information on [livelihoods](#). They pointed out that most Indian ICTD projects lack global experience, and highlighted successful international projects from the [Solomon Islands](#) that give farmers access to new technologies, and from [Africa](#), that use the internet for effective communication.

Discussants outlined several **factors critical for successfully scaling up ICT projects beyond pilots**. They stressed the planning state must have well-defined strategies, focusing on self-sustainability and incorporating a specific plans for scaling up, along with community involvement from the development stage. One suggestion to ensure scaling up is to roll out ICT projects in 'phases' rather than pilots. Further, they underlined the importance of creating a strong infrastructure and using appropriate technology, including factoring in connectivity issues and regular maintenance.

Another essential factor for success is to include **research** at every stage. Members cited the example of [Media Lab Asia](#) and suggested that universities (especially agricultural) and institutions of higher education each adopt one district and undertake all the research and development (R&D) activities for those areas. They also recommended studying businesses like retail, telecom and Fast Moving Consumer Goods (FMCG), which have effectively penetrated rural markets despite constraints, to apply their learnings to rural ICT projects.

Along with planning and research, capacity building especially in technology of communities by the implementing agency is essential for the sustainability of the project. Based on their experiences respondents felt it is necessary to provide

'handholding' to rural communities for quite some time. They pointed out that even corporate ventures require a gestation period, during which the project demands intensive support and attention by the promoters. In addition, discussants mentioned the need for localized content to succeed in any rural set up in India.

ICT projects in local languages and need-based content related to livelihood security tend to be more successful.

Members also discussed the importance of [resource generation](#) for replication of projects. Since funding agencies support projects for a limited period and implementing agencies rarely have their own resources, it is essential for projects to plan a model that incorporates a mix of paid services and social goods. Respondents recommended engaging the government in a more purposeful way to channelise its resources for making projects sustainable.

Further, respondents highlighted the need for project leadership to be well informed, open, transparent and accountable in order to take projects to the next level. Scaling up depends on the willingness of the leadership to learn and adapt, noting that businesses succeed because of the decision-making capabilities at the highest levels of management. At the same time, they pointed out that leadership is essential at all levels of the project, including those operating at the grassroots.

Members recommended an **integrated approach to ICT projects**, incorporating successful non-ICT interventions (assuming non-ICT bases are the structure and the ICT interventions are the superstructures) in the areas of health, education and livelihoods. Noting that NGOs tend to understand 'development' better, while businesses know how to bring projects to scale, respondents recommended using Public Private Partnerships, with rural citizens as partners. Highlighting the importance of such partnerships, they gave the cautionary example of **Kerala's** [e-governance scheme](#) and suggested projects could possibly collaborate with successful business ventures in rural areas.

Respondents also shared various [resources](#) that list relevant ICTD projects, and documentation on mainstreaming ICT to foster inclusive growth and rural prosperity in India.

Finally, members noted that not all pilots need be 'successful' because many of them navigate uncharted territories, and require testing before being introduced on a large scale. Without learning from failures, successful models do not emerge, and scale does not really happen unless a solution is replicable in the first place. Indeed, it may not even be possible to scale up every project.

Respondents concluded that the key to **scalability and replication** is to share existing knowledge and experiences, and the ability to learn from both successes and failures.

Comparative Experiences

Andhra Pradesh

Women Village Photographer Program (from [Anirban Mukerji](#), *Independent Consultant, Bangalore*)

In 2003, Hewlett Packard (HP) designed a photography course for women in the small town of Kuppam, training about 15 women in digital photography. With a digital camera and portable printer, many of these women have done really well and earn about Rs. 3,000 a month from photography. This initiative has proven to be a good income generation program for the women. Read [more](#)

ICTs for Enhancing Rural Livelihood Opportunities (from *Satish Jha, Digital Partners, New Delhi*; [response 1](#))

The premise of the i-Shakti model is to provide need-based demand driven information and services across a large variety of sectors to improve the daily livelihood opportunities and living standards of agrarian communities. The kiosks under the project are operated by a Shakti Entrepreneur. At the kiosks, community members can pose questions on health, hygiene, and other problems to experts. The pilot project comprised 8 villages and now the project organizers plan to scale up to 1,500 kiosks. Read [more](#)

Kerala

eKrishi Project Implemented through IT Enabled Agri-Business Centres (from [Gaurav Chakraverty](#), *The Energy and Resources Institute (TERI), New Delhi*)

The e-Krishi project is a market driven agricultural initiative being implemented through IT enabled AgriBusiness Centres. The centres provide web-based solutions to agrarian communities farm advisory services (i.e. crop information, weather information), agri market information (i.e. daily market prices) and a resource library for farmers. It empowered small farmers with real time information to do collective bargaining on crop prices and customized agriculture engineering knowledge and advice. Read [more](#)

Networking Local Governments through e-Governance Project (from [K. Rajasekharan](#), *Kerala Institute of Local Administration (KILA), Thrissur*)

Since 1998, the Kerala Government has been planning an e-governance programme by networking all local governments in the state. This is intended to help empower local governments by establishing an administrative environment for representatives involved in economic development initiatives. The project is still at an implementation stage.

Tamil Nadu

Using ICTs to Provide Relevant Information to Agrarian Communities (from [R. Sujata](#), TVS-Electronics Ltd., Chennai)

Information centers set up as e-Governance nodal points for disseminating best practices. The centers provide a range of services such as databases on villages, SHGs, opportunity to network with district/block level departments, access to online petitions submission, information on the progress of work at block level, and details on PDS allocation, market prices, and land records. Piloted in one district, was scaled up to other districts in Tamil Nadu. Read [more](#)

Gujarat

Akashganga's ICT Tools To Help Dairy Farmers (from [Ujval Parghi](#), Shree Kamdhenu Electronics Pvt. Ltd., Anand)

Manual collection of milk often resulted in milk being spoilt because the producers had to wait in long queues to sell their products, and delayed payments. The company Akashganga uses a simple technology that enables the timely collection of milk, accurate fat measurement, and eliminates the need for intermediaries, thereby enabling the farmers to get higher profits. Read [more](#)

From [Gaurav Chakraverty](#), The Energy and Resources Institute (TERI), New Delhi

Videos for Vocational Training of Non-Literate Women

SEWA used videos to train and inform non-literate women on topics like Oral Rehydration Therapy, Van Vanita (raising nursery saplings) and Naya Ghar (making earthquake-resistant houses). This approach helped SEWA raise general awareness among women, along with building their confidence, and in some cases encouraged women to start income generating activities. Read [more](#)

Karnataka

ICT for Documenting Land Records

Manual land record administration was prone to manipulation and farmers often faced harassment and extortion when trying to access information. Bhoomi is a farmer friendly mechanism to access and update land records using state of the art technology. The initiative has computerized 20 million land records of 6.7 million landowners from 176 taluks. Farmers have benefited from the project, which has been successful due to good project leadership and management. Read [more](#)

Himachal Pradesh and Madhya Pradesh

"Soochna Se Samadhan"- ICT Intervention for Farmers through Query Redress Services (from [Kadambari](#), Indian Society of Agribusiness Professionals (ISAP), New Delhi)

This project gives farming communities access to a 10,000 plus network of

experts through a phone service. Farmers call a hotline and submit their queries; the queries are forwarded to the ISAP central office where it is routed to the relevant experts. The service caters to the information and knowledge needs of farmers, members of ISAP, individuals and other stakeholders involved in the agriculture and allied sectors. The service started in Himachal Pradesh and was replicated in Madhya Pradesh. Read [more](#)

Multiple States

Research and Application of ICTD Empower of Rural Communities

Media Lab Asia started a project with the functional activity areas such as affordable, ubiquitous computing and access devices and low-cost high bandwidth connectivity. Later the company changed to application areas such as ICT for healthcare, education, livelihoods, and empowerment of the disabled and also access to wireless connectivity. Since then the company has taken up 75 development projects and some of the projects are now being rolled out at a national level. Read [more](#)

Use of ICTs for Agricultural Marketing (AGMARKNET) (from [M. Moni](#), National Informatics Centre (NIC), New Delhi)

AGMARKNET is a comprehensive database, linking together all the important agricultural produce markets in the country. It facilitates the generation and transmission of information on prices and commodity arrivals from markets. It then disseminates this information in a transparent and quick manner to producers, consumers, traders and policy makers to use. The project has successfully networked 2,800 markets dealing with wholesale agricultural produce. Read [more](#)

From Satish Jha, Digital Partners, New Delhi; [response 1](#)

Drishtee Rural Entrepreneurial Model

Through a tiered franchise and partnership model, Drishtee facilitates the establishment of ICT nodes enabling access to information as well as local services to the rural community at nominal cost. The village entrepreneur, who owns the village node to operate a self-sustaining, profitable kiosk, drives this business model. Drishtee has successfully demonstrated this concept in over 1000 kiosks across six states in India. Read [more](#)

Microfinance for the Rural Communities

SKS Microfinance delivers microfinance through a grameen (village) banking programme, providing loans to women and other clients in poor regions of India. Borrowers take loans for a range of income-generating activities, including for livestock, agriculture activities, trade (such as vegetable vending), and production (from basket weaving to pottery). SKS currently has 325 microfinance branches in various states. In 2006, SKS achieved nearly 161% growth, with a 98% on-time repayment rate. Read [more](#)

Training and Management Support to Improve Livelihoods

TARAhaat provides training courses and management support to its network of franchised TARAkendras to enable them to provide standardized services. It also acts as a central provider of need based products and services. TARAhaat was launched in late 2000 in Bundelkhand, Madhya Pradesh and Uttar Pradesh. In 2001, TARAhaat expanded its operations to Punjab. Today, TARAhaat has 196 opened centres and is in the midst of a major expansion in Punjab and the Bundelkhand region. Read [more](#)

Using ICT for Betterment of Agrarian Communities

The e-Choupal model identifies and trains a local farmer (sanchalak) to manage each e-Choupal. A computer is linked to the internet via phone lines or increasingly by a VSAT connection, serving an average of 600 farmers in 10 villages within about a 5-kilometer radius. The sanchalak benefits from increased prestige and a commission paid him for all e-Choupal transactions. Enthusiastic response from farmers has resulted in a planed extension to 15 states over the next few years. Read [more](#)

Senegal and South Africa

Providing New Technology to farmers (from [Mark Surman, Telecentre.org, Ottawa](#))

To lift vulnerable tenant farmers out of poverty, the Manobi Development Foundation felt it was essential to provide them with new, leading edge technologies and services that can make their businesses more cost-efficient. Telecommunication was harnessed to bring relevant market information services to rural poor populations, increasing their net revenues by over \$2,200 per hectare/year. The revenue of some of these farmers has jumped from \$700 per month on average to \$4,000. Read [more](#)

Solomon Islands

Using Internet for Effective Communications (from [Bill Thies, Massachusetts Institute of Technology, USA](#))

An Internet Café in Honiara allows residents of the capital city to access the Internet for writing emails and browse the web to search for information or post their information to share with others. The Café has 25 workstations and is financially self-sufficient. People have been quick to grasp the advantages of email, since other forms of communications either do not exist or are expensive. The Café has expanded twice and is often at full capacity. Read [more](#)

Related Resources

Recommended Organizations

From [Sagarika Bose](#), NASSCOM Foundation, New Delhi

NASSCOM Foundation (NF), New Delhi

Delhi Office, International Youth Centre, Teen Murti Marg, Chanakyapuri, New Delhi 110021; Tel.: 91-11-23010199; Fax: 91-11-23015452; info@nasscomfoundation.org;

[Http://www.nasscomfoundation.org/index.php?option=com_frontpage&Itemid=1](http://www.nasscomfoundation.org/index.php?option=com_frontpage&Itemid=1)

Leveraging on the power of partnerships NF promotes social development through the application of ICT, for empowering and transforming the lives of the under-served.

Rural Marketing Agencies Association of India (RMAAI), Chennai

R V Rajan, Anugrah Madison Advertising Pvt. Ltd., Jammi Building II Floor, 125 Royapettah High Road, Chennai 600004 Tamil Nadu; Tel: 044-24985751/2; connect@rmaai.org; <http://www.rmaai.org/about.php>

Aims to promote, improve, develop and further the cause of rural marketing in India and is exploring the integration of ICTs into rural marketing.

National Institute of Rural Development (NIRD), Hyderabad ([from K. A. Raju](#))

Rajendranagar, Hyderabad 500030 Andhra Pradesh; Tel.: 91-40-24008448/472/473/466/526; Fax: 91-40-24015277/6500; anil@nird.gov.in; <http://www.nird.org.in/>

Conducts research and training for rural development projects. Maintains a portal that lists ICT projects implemented in various areas including agriculture, entrepreneurship and employment.

From Satish Jha, Digital Partners, New Delhi; [response 1](#)

Digital Partners, New Delhi

N-150, Panchsheel Park, New Delhi 110017; Tel.: 011-2649-7107/8/3; info@digital-partners.org; http://www.digital-partners.org/projects/cp_overview.htm

Taps the power of the digital economy to develop market-based solutions that benefit the poor; working towards enabling rural communities to reap the benefits of the Digital Revolution

Health-Care, New Delhi

E-12 Second Floor, (ICA), Kalkaji, New Delhi 110019; Tel.: 91-931-376-4794, 981-125-7571; info@ehealth-care.net; <http://ehealth-care.net/project.htm>

Project piloted to streamline the government's health care delivery system with use of ICT, emphasis is on building the National Health History Database for each and every citizen of India.

National Institute for Smart Government (NISG), Hyderabad

IIIT Campus, Gachi Bowli, Hyderabad 500019 Andhra Pradesh; Tel: 91-40-2300 6683/4; Fax: 91-40-23006685; info@nisg.org;

http://www.nisg.org/projects/project_eGovWorld/egovworld.htm

Constituted under a Public Private Partnership model- eGov World, aims at becoming the focal point of major e-government activities in India and in the region

SKS Microfinance, Hyderabad

301, Babukhan Estate, Basheerbagh, Hyderabad 500029 Andhra Pradesh; Tel.: 91-40-23298131/41; Fax: 91-40-23298161; info@sksindia.com; <http://www.sksindia.com/>

Successful project that went beyond pilot- it provides access to basic financial services through innovative technology and has significantly increased economic opportunities for poor families

Drishtee, Noida

Ground Floor, A-11, Sector 2, Noida 201301 Uttar Pradesh; Tel.: 91-120-2545968/69/70; Fax: 91-120-2545967; info@drishtee.com; <http://drishtee.com/index.html>

Successful project that went beyond a pilot, created and implemented a sustainable platform of entrepreneurship for enabling the development of rural economy through the use of ICTs

TARAHaat Information and Marketing Services Ltd, New Delhi

111/9-Z, Kishangarh, Aruna Asaf Ali Marg, Vasant Kunj, New Delhi 110070; Tel.: 011-26122881/2; Fax: 011-26122896; tarahaat@tarahaat.com; <http://59.176.72.70/tara/aboutusEnglish>

Uses ICTs to deliver a broad spectrum of services and products on agriculture, livelihoods etc. to rural and peri-urban citizens through the 196 centres owned by individual entrepreneurs

ITC eChoupal

<http://www.echoupal.com/Default.aspx>

Offers the agrarian rural community all the information, products and services needed by them to enhance farm productivity

'i-Shakti' Lever

<http://www.hillshakti.com/sbcms/temp1.asp?pid=46802256>

IT-based rural information service that has been developed to

provide information and services to meet rural needs in agriculture, education, vocational training, health and hygiene.

MS Swaminathan Research Foundation, Chennai (from D. S. K. Rao, Cybermate Infotek Limited, Secundrabad; [response 1](#))

3rd Cross Street, Institutional Area, Taramani, Chennai 600113 Tamil Nadu; Tel.: 91-44-22542698, 22541229; Fax: 91-44-22541319; web@mssrf.res.in; <http://mssrf.org/iec/index.htm>

Imparts orientation to a job-led economic growth strategy in rural areas through harnessing science and technology for environmentally sustainable and socially equitable development

Kuppam Hewlett Packard (HP) i-Community, Bangalore (from [Anirban Mukerji](#), Independent Consultant, Bangalore)

Contact: Sai Sreekanth M., Technology Development Manager, Emerging Market Solutions; Salarpuria Arena, 24, Hosur Main Road, Adugodi, Bangalore 560030, Karnataka; Tel.: 91-80-25042233, 91-98453 26616; Fax: 91-80-51108020; sai.sreekanth@hp.com; <http://www.kupnet.org/i-community/village-photographers/>

Deploys ICT solutions strategically, e.g. the village photographer programme, to enhance economic and social development thereby improve many facets of life for rural communities.

From [M. Moni](#), National Informatics Centre (NiC), New Delhi

District Information Programme of NIC (DISNIC), New Delhi

Ministry of Communications and Information Technology, 'A' Block, Lodhi Road, C.G.O. Complex, New Delhi 110003; Tel.: 24362790; moni@nic.in; <http://disnic.gov.in/concept&approach.htm>

Facilitates easy collection, compilation, dissemination and on-line accessibility of information on several sectors of the economy at state level with the timely availability of qualitative information.

Agricultural Resource System (AgRIS), New Delhi

Contact: Mr. M. Moni, Deputy Director General; National Informatics Centre, Department of Information

Technology, New Delhi; Tel.: 24362790; moni@nic.in; <http://agris.nic.in/agrisintro.htm>

e-Government programme for fostering agricultural growth, poverty reduction and sustainable resource use at grassroots & step towards establishing location-specific e-gov model for the poor.

Agricultural Marketing Information Network (AGMARKNET), New Delhi

AGMARKNET Project Directorate, National Informatics Centre, Department of Information Technology
Ministry of Communication and IT, A-Bolck, C.G.O Complex, Lodhi Complex, New Delhi 110003; agmarknet.nic.in

Aims at improving the decision-making capability of farmers and strengthening their bargaining power by establishing an information network for speedy collection and diffusion of information

From [Gaurav Chakraverty](#), The Energy and Resources Institute (TERI), New Delhi

Akshaya, Kerala

Kerala State Information Technology Mission, Department of IT, Government of Kerala, ICT Campus, Vellayambalam Jn., Thiruvananthapuram 695033 Kerala; Tel.: 91-471-272-6881, 231-4307; info@akshaya.net; <http://210.212.236.212/akshaya/malappuram/index.html>

Project started at Malappuram and was scaled up to different parts of Kerala to meet the needs of the agrarian community through the e-krishi project.

Bhoomi, Karnataka

bhoomi@karnataka.gov.in; <http://www.bhoomi.kar.nic.in/Bhoomi/SE/WB.htm>

Under this project of the Government land records of land owners in taluks of Karnataka have been computerized, an example of a project meeting the needs of agrarian rural communities.

Media Lab Asia, New Delhi

C-235, First Floor, Defense Colony, New Delhi 110024; Tel.: 91-11-5155-3692; Fax: 91-11-5155-3689; <http://www.medialabasia.in/projects.html>

Bring benefits of ICTs to rural communities in the areas of healthcare, education, empowerment of the disabled, village livelihood generation and rural connectivity.

Self Employed Women's Association (SEWA), Ahmedabad

SEWA Reception Centre, Opposite Victoria Garden, Bhadra, Ahmedabad 380001 Gujarat; Tel: 91-79-25506444/77/41; Fax: 91-79-25506446; mail@sewa.org; <http://www.videosewa.org/index.htm>

Video unit established in 1984 as a means to provide training, united has produced numerous tapes and more than a hundred programmes on organizing, training and advocacy

The Energy and Resources Institute (TERI), New Delhi

Darbari Seth Block, IHC Complex, Lodhi Road, New Delhi 110003; Tel.: 91-11-2468-2100, 41504900; Fax: 91-11-2468-2144/5; mailbox@teri.res.in; <http://www.teriin.org/>

Developing an integrated model for ICTD projects that consolidate and plug the gaps/ obstacles in the business value chain of the village community.

Quality Education and Skills Training (QUEST) Alliance, Bangalore
(from [Amitav Nath](#))

C/o Azim Premji Foundation, 134, Doddakannelli, Next to Wipro Corporate Office, Sarjapur Road, Bangalore 560035 Karnataka; Tel./Fax: 080-66414949;

<http://quest.eeaonline.org/india/questpprograms.asp>

Mission is to bridge the gap between education and employment opportunities using innovative educational technology tools in rural and urban India.

Software Institute for Rural Development, Pune (from [Bhushan Ambadkar](#))

Contact: Bhushan Ambadkar, Director, Vanarai Foundation, 498, Parvati, Pune 411009 Maharashtra; Tel: 91-20-24445251/24440351; Fax: 91-20-24445299; bhushan@sirdpune.com; <http://www.sirdpune.com/projects.htm>

Division of Watershed Infotech, uses information technology solutions in watershed programmes and have developed a similar package for NREGP programmes.

From [R. Sujata](#), TVS-Electronics Ltd., Chennai

Rural Access to Services through Internet (RASI), Chennai

MAIYAMS- (Renamed from Sustainable Access in Rural India (SARI), FOOD India, C-Block, 1st floor, Bharathiar Complex, 100 feet Road, Vadapalani, Chennai 600026 Tamil Nadu; Tel.: 91-44-24848201; <http://www.foodindia.org.in/projects.html>

Provides a communication channel to the rural communities including for grievances and access to information by linking Panchayat offices, also building a database of best practices

LASON, Chennai

Dowlath Towers, 8th to 12th Floor, 59, Taylors Road, Kilpauk, Chennai 600010 Tamil Nadu; Tel.: 91-44-42203000; Fax: 91-44-4285 8528;

Project used ICTs to establish a Business Process Outsourcing (BPO), as an alternate livelihood option for rural communities.

From [Kadambari](#), Indian Society of Agribusiness Professionals, New Delhi

Indian Society of Agribusiness Professionals (ISAP), New Delhi

R-289 A, IInd Floor, Greater Kailash, New Delhi 110048; Tel.: 011-32994117, 4173057374, 30938993; mamta@isapindia.org; <http://www.isapindia.org/Static/VisionMission.aspx>

Objective is to enhance livelihood promotion of the agrarian rural community through information dissemination and extension services, using ICTs as a tool.

OneWorld South Asia, New Delhi

C-5, Qutab Institutional Area, New Delhi 110016; Tel.: 0091-11-41689000; Fax : 0091-11-41689001; owsa@oneworld.net; <http://southasia.oneworld.net/article/view/140355/1/>

Initiated a phone-based information service for farmers programme, which brings agricultural and veterinary advice to farmers in selected villages in North India

AKASHGANGA, Gujarat (from [Ujval Parghi](#), Shree Kamdhenu Electronics Pvt. Ltd., Anand)

Shree Kamdhenu Electronics Pvt. Ltd, 102, Shivam Complex, Nanabazar, Vallabh Vidyanagar 388120 Gujarat; Tel.: 91-2692-235390/232636; Fax: 91-2692-232636; info@akashganga.in; <http://www.akashganga.in/CompleteSolutions.htm>

Pioneered to bring e-Business to the rural population by introducing automatic and easy collection procedure for dairy co-operatives.

Public Action (from [A. Prabakaran](#), Public Action, New Delhi)

201. Balkishan, 22. B Buddh Vihar, New Delhi 110 067; Tel.: 9350213163; Publicaction@soon.com; www.publicaction.in

Provides computer education and internet training to students in government schools in villages of Namakkal district in Tamil Nadu.

Manobi Development Foundation, United States (from [Mark Surman](#), Telecentre.org, Ottawa)

1250 Clubhouse Drive, Pasadena, California 91105-2729 USA; Tel.: 1-626-799-7773; Fax: 1-626-799-6278; elizabeth.huttinger@manobi.org; <http://www.manobi.sn/sites/foundation/website/?M=6>

Objective is to support a participatory methodology for testing innovative ICT solutions and services addressing local needs to provide responsible and sustainable implementations.

The Solomon Islands People's First Network (PFnet), Solomon Islands

(from [Bill Thies](#), Massachusetts Institute of Technology, USA)

Rural Development Volunteers Association, Ministry of Provincial Government and Rural Development, PO Box 919 Honiara, Solomon Islands; Tel.: 677-26358; Fax: 677-26458; pfnet@pipolfastaem.gov.sb;
<http://www.peoplefirst.net.sb/general/PFnet.htm>

Rural networking project promoting rural development & peace building by enabling affordable & sustainable rural connectivity & facilitating info exchange between stakeholders & communities

Recommended Documentation

Existing ICTs for Development Projects in India and their Relevance

(from [K. A. Raju](#), National Institute of Rural Development, Hyderabad)

By Chetan Sharma, Datamation

<http://www.solutionexchange-un.net.in/ictd/cr/res19060701.doc> (Size: 100 KB)

Paper takes a snapshot view of existing ICT initiatives dividing them into "Successes" and "Failures" and attempts to extract lessons learnt from the success and failure stories.

The Impact of ICT on Rural Development In Solomon Islands: The People First Network (Pfnet) Case (from [Bill Thies](#), Massachusetts Institute of Technology, USA)

By Anand Chand, et al.; ICT Capacity Building at USP Project; March 2005

http://www.usp.ac.fj/jica/ict_research/documents/pdf_files/pfnet_report.pdf
(Size: 1.92 MB)

Research paper examines the impact of the Internet on the lives of grass-roots people in Solomon Islands using People First Network (PFnet) as a case study.

From [M. Moni](#), National Informatics Centre (NIC), New Delhi

Sustainable Livelihoods with ICT in Rural India: Rural India to Shine, Smile and Roar

By Madaswamy Moni; i4d Magazine; February 2006

[Http://www.i4donline.net/articles/current-article.asp?articleid=549&typ=Features](http://www.i4donline.net/articles/current-article.asp?articleid=549&typ=Features)

Article explains how rural development can be achieved utilizing the power of ICTs through a locale specific interface and local languages in particular

Ushering Market-Led Agriculture Extension

By Madaswamy Moni; i4d Magazine; July 2004

<http://www.i4donline.net/july04/digitalnet.pdf> (Size: 309 KB)

Paper deals with the government's digital initiatives and agenda

as a step towards "reaching" agricultural knowledge and technology to the resource poor farmers of the country.

Impact of Economic Reforms on Indian Agricultural Sector: Application of Geomatics Technology to Reduce Marginalisation and Vulnerability of Small Farmers in India

By Madaswamy Moni; Geographic Information Systems (GIS) Development

<http://www.gisdevelopment.net/application/agriculture/production/agric0003pf.htm>

Paper suggests the use of ICTs in the development of metadata and the application of a OpenGIS model for optimal utilisation of agricultural resources for agrarian rural communities

Rural India Different Meaning to Different People

By Madaswamy Moni; Discussion paper in the 3rd International Conference on "Rural India: Achieving Millennium Development Goals and Grassroots Development"; November 2005

Http://www.bhoovikas.org/BVF/conference_pdf/discussionpaper.pdf (Size: 151 KB)

Section of the paper explains how science and technology offers tremendous opportunities for improving rural livelihoods.

Agricultural Resources Information System (AgRIS): An e-Government Programme for Fostering Agricultural Growth, Poverty Reduction and Sustainable Resource Use in India "A Step towards Establishing a Location-Specific E-Government Model for the Poor"

By Madaswamy Moni; Asian Development Bank; September 8, 2004

<http://www.adbi.org/files/2004.05.31.cpp.designing.egovernment.poor.pdf> (Size: 492 KB)

Paper deals with the Government's digital initiatives and agenda (AGRISNET, AgRIS, etc), as a step towards "reaching" agricultural knowledge and technology to agricultural communities

Digital Inclusion to Foster Rural Enterprise

By Madaswamy Moni; Asian Development Bank; September 8, 2004

<http://www.adbi.org/files/2004.05.31.cpp.digital.inclusion.rural.pdf> (Size: 332.9 KB)

Note outlines how India, where agriculture provides livelihoods to over 70% of the population, has come to realize the importance of ICTs in agriculture and rural development.

Informatics Blueprint for Integrated Water Resources Planning and Management at Grassroots Level: A Quintessential Requirement for Adaptation to Climate Change and Sustainable Agricultural

Development in India

By Madaswamy Moni; National Conference on "Climate Change and its Impact on Water Resources in India", organized by Department of Geography, School of Earth and Atmospheric Sciences, Madurai Kamaraj University, Tamil Nadu; December 15-17, 2004

<http://waterinfo.nic.in/news/IWRPM.pdf> (Size: 209 KB)

Valedictory address from conference highlights the role of ICTs in water resources planning and management at the grassroots level.

Abstract from ICT for Development- Learnings and Strategies (from [Gaurav Chakraverty](#), The Energy and Resources Institute (TERI), New Delhi)

By Gaurav Chakraverty and Arvind Narayanan; The Energy and Resources Institute (TERI), New Delhi

<http://www.solutionexchange-un.net.in/ictd/cr/res27060701.pdf> (Size: 28 KB)

Paper talks about using an integrated approach to improve the success of ICT projects- consolidating existing work and then plug the gaps to make projects more systemic and efficient.

The Ideology of Development (from Vineeta Dixit, National Institute for Smart Government, New Delhi; [response 1](#))

By William Easterly; Foreign Policy; July/August 2007

http://www.foreignpolicy.com/story/cms.php?story_id=3861

Article discusses the ideology of development, argues that like communism, fascism, and others before it "developmentalism" is a dangerous and deadly failure

Bihar Shows Smart Card Way To Cleaner Rural Job Scheme (from Kris Dev, Transparency and Accountability Network, Chennai; [response 3](#))

By Jaya Menon; Indian Express; June 12, 2007

<http://www.indianexpress.com/story/33365.html>

Article explains how villagers working under NREGP scheme received tamper-proof identity cards through biometric authentication.

Funding Educational Development: The "Who Gets It" Dilemma! (from [M. V. Ananthakrishnan](#), IIT Bombay, Mumbai)

By Dr. M V Ananthakrishnan; January 2007

<http://www.solutionexchange-un.net.in/ictd/cr/res20060701.doc>

Paper on Funding Educational Development, talks about the role of ICT in rural schools and for educating nomadic children

Epoch Making Changes in the Offing in India (from Kris Dev,

Transparency and Accountability Network, Chennai, [response 2](#))

Life-Line to Business; June 16, 2007

<http://il2b.blogspot.com>

Note on a workshop held for strengthening the partnership among the various alliance members for promoting self-sustaining, self-replicable and self-generative Village Knowledge Centres.

Rural knowledge Centres: Harnessing Local Knowledge via Interactive Media (from D.S.K. Rao, Cybermate Infotek Limited, Secundrabad; [response 1](#))

Policy Makers Works Workshop, 8-9 October 2003, M. S. Swaminathan Research Foundation, Chennai

Http://old.developmentgateway.org/download/220878/policy_makers.doc

Meeting report on workshop got together policy makers and experts for recommendations for setting up Village Knowledge Centre in the villages of India as a part of Mission 2007

Spreading the ICT Revolution in Rural, New Delhi, India, 13 June 2007

(from [Sagarika Bose](#), NASSCOM Foundation, New Delhi)

NASSCOM Foundation, New Delhi; 2007

Click [here](#) to read

Note on the one day seminar was also to search ways to provide appropriate ICT based solutions to rural market-related problems within the peripheries of rural set ups

Recommended Portals and Information Bases

From [M. Moni](#), National Informatics Centre (NIC), New Delhi

Agricultural Informatics and Communications Network (AGRISNET)

Department of Agriculture and Cooperation, Ministry of Agriculture

www.agricoop.nic.in

Provides improved services to the farming community through use of ICT and aims to establish Indian agriculture online in the country

SEEDNET India Portal

Contact: Joint Secretary, Seeds Division, Department of Agriculture & Cooperation, Krishi Bhawan, Dr R.P Road, New Delhi 110001; Tel.: 23384902;

<http://seednet.gov.in/>

Portal for agrarian communities gives information on different types of seeds, quality control, research and development of seeds etc.

eGovernance Standards Portal

Contact: Mr. M. Moni, Head of Group, eGovernance Division, National Informatics Centre; Tel.: 011-24362790; moni@nic.in; <http://egovstandards.gov.in/>

Portal contains information on the e-governance standards in India, adopted for the National e-Governance plan throughout the country

Digital Library (eGranthalaya)

National Informatics Centre, Deputy Commissioner's Office, Revenue Complex, K. G. Road, Bangalore 560009 Karnataka; Tel.: 080-22239500/22239517/22240049; veena@kar.nic.in, karurb@hub2.nic.in; <http://www.egranthalaya.kar.nic.in/>

Aims to suit the IT requirements of different kinds of libraries, to promote IT in Library management at affordable price and to provide maximum functionalities required by a librarian

ICT4RD Portal (from [K. A. Raju](#), National Institute of Rural Development, Hyderabad)

National Institute of Rural Development, Hyderabad

<http://www.ict4rd.net.in>

Portal provides information on ICTD projects (on-going/completed) by government, NGOs, institutions or individuals focused on meeting the needs of agrarian communities

ICT4D - Information and Communication Technologies for Livelihoods (from [H. K. Mishra and B. N. Hiremath](#), Institute of Rural Management Anand (IRMA), Anand)

Livelihoods Connect

http://www.livelihoods.org/hot_topics/ICT4D.html

Contains a collection of papers and list of events focusing on how ICTs contribute to the livelihoods of the rural poor.

Recommended Tools and Technologies

corDECT (from [Vikas Kanungo](#), The Society for Promotion of e-Governance (SPeG), New Delhi)

Developed by Midas Communication Technologies and IIT Madras with Analog Devices, USA

<http://en.wikipedia.org/wiki/CorDECT>

Wireless local loop standard, which has extremely low capital costs and is ideal for small start ups to scale, as well as for sparse rural areas.

Related Past Consolidated Replies

ICT and Livelihoods, from Anita Gurumurthy, IT for Change, Bangalore (Experiences) Issued 22 January 2007

Experiences on the socio-economic impact of information and Communication Technology (ICT) interventions on livelihood projects in rural and urban India

Responses in Full

K. A. Raju, National Institute of Rural Development, Hyderabad

Your observation is not far from the fact. In this connection, we request you to see the website <http://www.ict4rd.net.in>, wherein we have tried to collate all those projects that are ongoing or completed. You may identify the kind of experiments that are successful and not so successful. This is a project we are doing for the National Institute for Rural Development. In this connection, I am giving a link to a paper by Shri. Chetan Sharma, Datamation Foundation, on ICT for Development Projects in India (<http://www.solutionexchange-un.net.in/ictd/cr/res19060701.doc>), which has thrown up many insights into PPP initiatives.

Satish Jha, Digital Partners, New Delhi (response 1)

Interesting questions. Nasscom Foundation's sounds like Digital Partners' charter as well. That may be one reason I thought of reflecting on your questions.

Re pilots: Four years back National Institute for Smart Government (NISG), with the help of UNDP, organised a very interesting get together of people, deeply engaged in ICT4D and my best friend Ashok Khosla was invited to Keynote the workshop and his first point was that we should go beyond the "pilots". I normally agree with Ashok and surely respect the sentiments he brings to the debate. But the real question is why we do not manage to go beyond the pilot? That may tell us why we do not and why we should or should not...

Simply speaking, to scale up from the pilots, we must meet some criteria. It must be a pilot that yielded desired results, must be sustainable, repeatable, scalable, capable of being scoped out and commercialized. How many projects do indeed meet these criteria? One of the earliest seeding by Digital Partners was that of SKS, followed by a couple of dozen other social entrepreneurs including Drishtee, eHealth-Care etc. SKS went beyond the pilot very soon and has become an example of what can be achieved and the credit goes to its leadership. Drishtee too has come a long way and these organisations managed to get a few million dollars in both equity and venture funding.

If others have not moved forward, it could be the model or the execution or any of

the points along the way on their life cycle. Even Tarahaat.com that I co-founded with Ashok Khosla has been more of a herald and has come nowhere close to realising its potential. It could have had greater impact than eChoupal, a project that, in my opinion, it inspired. But eChoupal's success is a corporate story. If large business houses see the benefit and their leadership decides to move forward with these experiments, they have the resources and the organisational capacity to make it work, provided they can offer the leadership that can make it the difference. I always look at eChoupal and Shakti (of Lever) with amazement and cannot explain the difference save in terms of corporate goals or leadership.

So, it boils down to these pilots not having the leadership that has the experience base to make them succeed, organisational resources or funds. Just one of them will not cut it. It's a coming together of all the necessary and critical success factor embellished with the requisite leadership that make the difference here.

How do we produce these leaders? I was into mentoring some of them, and at the last count was associated with mentoring 27 such projects. Depending on how receptive the project leadership was, they moved from a zero to a thousand times their initial stage in less than 5 years. Some will never make it. If five out of 27 remain visible ten years from the starting point, I would look at that as a success. Fortunately, in some ways five of them are visible as of today and many others out of these 27 have not thrown in the towel just as yet.

Drishtee had serious consulting support from me, my colleagues, Boston Consulting Group and we put there on the board a very experienced, global and passionate leader. BCG gave months of consulting free and I would have valued that consulting in the market place at a few crore rupees. Altogether we put in several times the financial resources as intangible but very expensive management resources. Then again, it was the willingness of Drishtee leadership to learn from that. And still they were honest enough to tell me five years later than we cannot articulate like BCG does or make presentations like that as yet. And one cannot guarantee learning to compete with BCG and McKinsey in five, ten or twenty years even by working hard at it. A very small section of those who try may succeed, even in the US, even from among those who study at Ivy League schools. It's not easy to measure up to those standards. It's easier to dismiss their achievements or outcomes though and that depends on various factors.

I believe that ICT4D initiatives are plagued with a woeful lack of experience of working in a global setting, a lack of informed, open and engaging leadership and their highly commendable passion is no substitute for lack of some of the critical success factors in taking projects to the next stage of implementation.

D. S. K. Rao, Cybermate Infotek Limitedm Secundrabad (response 1)

I still remember the ICT Conference (Policy Makers' Workshop) held by Ms Swaminathan Research Foundation in Chennai on 8-9 October 2003 and the animated discussions all of us had to take things from 'Pilot' to sustainables.

My experience says that there needs to be some political will to support these initiatives in terms of some cess or fund allocation or at least some tax benefits to corporates (as in case of R&D) to sustain.

Bill Thies, Massachusetts Institute of Technology (MIT), USA

One notable project outside of India is the People's First Network in the Solomon Islands: <http://www.peoplefirst.net.sb/>

They have done a careful evaluation of their program, including its impact on agrarian communities:

http://www.usp.ac.fj/jica/ict_research/documents/pdf_files/pfnet_report.pdf

Some of the lessons learned might be useful in India.

Ashok Jhunjunwala, Indian Institute of Technology (IIT) Madras, Chennai

There has been work going on in rural areas on:

Education: getting children to pass SSLC exams (meeting basic needs)

Health Care: strengthening the Local Health practitioners (meeting basic needs)

BPO: Rural BPO by a Desi Crew, which provides work in rural areas (producers)

RPO: Rural outsourced production by RPO, making rural people producers

Agri work by Rural Technology Business Incubator (RTBI) and several others which provide services to farmers enabling them to produce better and get more for their produce

Vocational training providing training for specific jobs and getting people the jobs (producers)

Communication is only a means. Each of the above requires full-fledged work, specifically, if one wants it to make a business, which can scale.

K. Rajasekharan, Kerala Institute of Local Administration (KILA), Thrissur

Since 1998, Kerala Government has been planning to have an excellent e-governance programme by networking entire local governments in Kerala. The project, if operationalized wholly, would help empowering the local governments

and establishing an administrative environment for pushing ahead an alternative, participatory and people involved economic development at the grassroots level in Kerala, that would encourage agricultural production, rural industrial development and enhancement of public services.

If it comes to fruition early, it would have been a very large public governance network in the country.

But the implementation of it still veers round pilot project implementation and experimentation. The project would have been a success, if private partnership were included in it. The public sphere projects in information technology applications in Kerala lag behind a lot mainly because of the diversity, obsolescence and declining prices of computer products make computerization an area of undue practices. If private participation were there, the public e-governance project in Kerala for local governance would have been a success story worth emulating elsewhere.

NASSCOM may think of not only success stories but also stories of failure too to push ahead a leap forward in information technology applications in our public sphere activities.

Anirban Mukerji, Independent Consultant, Bangalore

I would like to share an experience from the Kuppam HP i-community (<http://www.kupnet.org/>) of the Women Village Photographer program.

During the course of the program, in Kuppam a small town in Andhra Pradesh 105 kms from Bangalore HP trained about 15 women in digital photography. These women were given a digital camera and a portable printer that printed 4" X 6" maxi size photos. Among this group, some women have done really well and are earning about Rs.3000 a month from photography. Since printing on an inkjet printer costs about Rs.20/- per picture and is expensive, for bulk orders, these women burn the photographs on a CD and send it to Bangalore for printing by commercial photo labs. Some of these women who had studied up to just 8th standard have also learned 'photoshop' and do some basic touching of the photographs before giving it for printing.

HP started this program in 2003 and given the fact that now camera and printer prices have dropped considerably, this is a good income generation program. Most of the photo printers can connect directly to a camera and so even a PC is not required. Further, some of the portable photo printers come with an attached battery and hence they can be set up in places where power is also not available and a village photographer can set up a photo booth in village fairs etc.

M. Moni, National Informatics Centre (NIC), New Delhi

I have been advocating the following ICT initiatives during the last 25 years for rural growth through ICT:

Digital Programmes: DISNIC, AgRIS, AGMARKNET, AGRISNET, DACNET, SEEDNET, Digital SME, eCooperative, Digital Library (eGranthalaya) to usher in Rural Prosperity in India (<http://disnic.gov.in>, agris.nic.in, dacnet.nic.in, agmarknet.nic.in, egovstandards.gov.in, seednet.gov.in).

As a technocrat of 30 years experience in ICT deployment in Government, I take all challenges as opportunities for "moving ahead". I have worked out schemes such as the DISNIC Programme way back in 1985 (<http://disnic.gov.in>) (propagated through 5 District Collectors' conferences that took place in 1987-88 and instrumental for informatics revolution in 520+ districts then), Agricultural Informatics and Communication Programme (based on ISDA95 Recommendations resulted in AGRISNET, AgRIS (<http://agris.nic.in>), AGMARKNET (<http://agmarknet.nic.in>), SeedNet (<http://seednet.gov.in>), (<http://DACNET.nic.in>), etc. for the Agricultural Sector when no one in the country talked about ICT in Agricultural Sector.

My articles such as "Rural India to Smile, Shine and Roar" (i4d magazine, February issue 2006) have been translated into Portuguese and published in the website of Econometrica of Brazil. This article talks about six ICT Programmes for Rural Prosperity: DISNIC, AgRIS, e-Cooperative, Digital SME and AGMARKNET and READ programmes.

My papers/articles on "Rural India: Different Meaning to Different People" [a discussion paper in the 3rd International Conference on "Rural India: Achieving Millennium Development Goals and Grassroots Development" (held at Hyderabad, 10-12 November 2005)], "Digital Networks for Farmers Ushering market-led agriculture extension" (I4d magazine, July 2004 Issue), "Impact Of economic reforms on Indian agricultural sector: Application of Geomatics technology to reduce marginalisation and vulnerability of small farmers in India" (<http://www.gisdevelopment.net>), "Designing e-government for the Poor" and "Digital Inclusion to Foster Rural Enterprise" (www.adbi.org), "Informatics Blueprint for Integrated Water Resources Planning and Management at grassroots level: A Quintessential Requirement for Adaptation to Climate Change and Sustainable Agricultural Development in India" etc, are about my vision for mainstreaming ICT to foster inclusive growth and rural prosperity in India.

Mainstreaming ICT for sectoral productivity, which is the backbone of NIC, requires five components: Research, Education, Development, Training and Extension, for sustainable development.

The "Future" lies in "Rural Computing" for all "last mile problems".

It should be mandatory for Universities, Institutes of Higher Education (IITs, IIMs, NITs, Computer Sciences & Engineering Colleges, ICAR Institutes, Agricultural Universities, Departments of Geography, Medical Colleges, etc) to adopt one district each for undertaking all R&D activities related to last mile problems in mainstreaming ICT for "Rural India to Smile, Shine and Roar". We have got only 600 districts in India.

Networking of all the Institutions (colleges, universities, etc) located in a district is essential. Libraries (Public Libraries, Schools, Colleges, Universities, etc) should function as "Community Information Centres" with 24-7-365 ICT infrastructure.

District Administration is expected to earmark to 3-5% of their annual outlay (Central schemes, State schemes, District untied funds, etc., pooled together) for institutional support for rural computing. In my opinion, it is essential to usher in 'e-society' at grassroots level, for achieving "India - a Knowledge Society".

This will be the "C2G" (reverse of G2C) component of the e-Governance Framework.

This holistic view is necessary for Rural India to shine, smile and roar.

Syed S. Kazi, Digital Empowerment Foundation, New Delhi

Glad to be part of this ICT for Development community.

All ICT for development interventions have been so far largely successful at pilot levels. One strong belief is while conducting pilots, the stakeholders put in most of their efforts, time, energy, coordination and partnership, at horizontal and vertical levels in ensuring the success of the pilots for their eventual promotion and demonstration. Once the pilots are over, the strength of coordination and networking in actual pursuance of the projects dwindles down. In other words, the integrated approach, so quintessential for such technology based interventions in a still agrarian economy and society, somewhat mellows down.

What is meant by this integrated approach is while pursuing the ICT angle, the thrusts equally and at the same time must be on non-ICT interventions into the areas of health, education, livelihood, etc. It can be assumed that non-ICT bases are the structure and the ICT interventions are the superstructures based upon the non-ICT structural bases.

Without the structures, the superstructures cannot sustain and survive.

Amitav Nath, QUEST Alliance, Bangalore

Great to see this issue raised by Sagarika, which is floating in all the ICT

Conferences, Seminars and Workshops, but never nailed down in the form of a concrete solution.

I am associated with ICT4D for more than two years. Presently, I am working with QUEST Alliance, whose mission is to bridge the gap between education and employment opportunities using innovative educational technology tools.

After more than a decade, the 'ICT Intervention' is still in experimental or natal stage, where grassroots communities are treated as 'guinea pigs'. Who is responsible for this Donor/Funding agency, Implementing NGO/organization, Corporate/private players, Research and Development Organization, Government Policy or the community itself? It's really a debatable question.

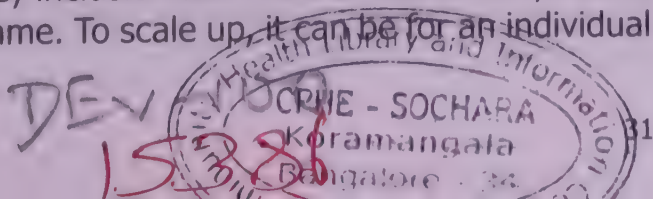
The debates and the reports on the ICT projects use some of the best jargons, indicating its success or failures. These jargons include Multi-stakeholder Partnership, Public Private Community Partnerships, Inclusive Growth and Sustainable Entrepreneurship Model etc. But practically, is the essence really visible at grass root level?

There is serious threat on the replication of successful ICT4D projects. The important component of replication is "Resource Generation". The major stakeholders in these projects have their own limitation to scale up the successful projects in terms of resource mobilization. Eventually, it takes some time, to scale up or to strengthen the system by its own.

These limitations at various levels include:

- International or National Funding agency can put their money for certain time bound pilot projects.
- Private and Corporate players can come into the picture, but as a support agent not as a primary stakeholder in the programme.
- Implementing agencies don't have their own resources and are totally dependent on their funders.
- Communities are not strengthened enough in such a short time span to carry forward the activities in the long run.
- Engage Government in a more purposeful way to channelise the various resources and streamline the various activities until it reaches the self-sustainable phase.

Now, there is the urgent need for policy inclusion and this ICT Community has to come forward and advocate for the same. To scale up, it can be for an individual



initiative or an integrated approach of various ICT projects, embedded with social, economic, political and cultural sustainability. A more responsive system needs to be acquired and strengthened.

Gaurav Chakraverty, The Energy and Resources Institute (TERI), New Delhi

You have raised a valid question: yes, there is a greater need to share experiences and learnings. Solution Exchange is indeed a very good platform for such exchanges.

Pilots were not always meant to be successful because those were new initiatives and in uncharted territories. Had this not happened, some successful models would not have emerged. The scope of the pilot may have targeted one area of intervention, but soon one realizes that the whole village value system needs to be worked at.

The work done in Akshaya, Bhumi, Drishtee, Media Lab Asia, NDDDB, AGRIMARKNET and SEWA have been of importance.

We still have a long way to go in helping develop rural communities from consumers to producers; on our part at TERI, we are trying out an integrated model which targets at consolidating and plugging the gaps in the entire value chain of the village community.

A few points:

- Satish Jha has actually hit the nail on the head; with my experience in working in the Drishtee team, I would like to add the point that these projects require that element of intuitive out-of-the-box thinking and risk taking which usually pays off.
- ICT for D projects, apart from good experience and leadership, also requires smart management. With the Common Services Centre (CSC) scheme on the roll, one would require a new breed of managers who are social entrepreneurs in their own right.
- Relevance of the impact through the project by on the ground assessment rather than euphoric and wishful thinking.
- Standardisation of information and delivery channels needs to be understood.

I am also including an abstract (<http://www.solutionexchange-un.net.in/ictd/cr/res27060701.pdf>) from a paper which my colleague Arvind Narayanan and I have been documenting based on our experiences. Members' comments are welcome.

Satish Jha, Digital Partners, New Delhi (*response 2*)

Amitav Nath writes that, "After more than a decade, the 'ICT Intervention' is still in experimental or natal stage, where grassroots communities are treated as 'guinea pigs'. Who is responsible for this Donor/Funding agency, Implementing NGO/organization, Corporate/private players, Research and Development Organization, Government Policy or the community itself? It's really a debatable question."

Are they treated as 'guinea pigs'? I was with Sam Pitroda yesterday and he feels, much like I have argued for the past 12 years in India, that much of what has happened is effectively hard-wiring the mess. The fact is that most likely most of us engaged in it have never seen the elephant we are dealing with, so where is the reason to treat anyone like a guinea pig?

May be we are all guinea pigs in a larger scheme of things. But where we can become less of a guinea pig is, learn from those who have already made the mistakes and do not repeat them. We continue to repeat them; we want to learn all over again, every time, each time. We could bring in those with experience and avoid making those mistakes. But we may not know how to bring in the experienced; we may not even know how to judge the experience.

I have seen people decide for reasons that will not be acceptable in any professional setting. But when we are altruistic, our motives cannot be suspect, and we often believe what we know is the only way. If in a role of authority, we could turn that into a colossal mistake that costs everyone in turn.

Bhushan Ambadkar, Software Institute for Rural Development, Pune

Our organisation has developed a customised version of Watershed Design and Estimation software with local language interface for 11 states so far, as per sanction from Ministry of Rural Development, New Delhi. This is being done in collaboration with National Institute of Rural Development (NIRD), Hyderabad. Work on remaining states and union territories has already begun.

In fact, during the brain-storming session on formulation of new Watershed guidelines, Mr. Bhaskar Chatterjee, Additional Secretary (LR), Ministry of Rural Development has accepted our suggestion to make a mention of the use of Information Technology solutions in Watershed programs. As a sequel to this effort, we have now developed a similar package for National Rural Employment Guarantee (NREGA) program, which can be easily replicated in other states on the lines of success achieved for "Watershed A to Z" software. NIRD has also shown keen interest in this new NREGA software developed by us, which can be further

upgraded to include Muster Roll, etc.

In view of this experience, we have received requests from few districts in Maharashtra as well as some states to help them with a special package for NREGA program.

R. Sujata, TVS-Electronics Ltd., Chennai

This is with respect to the issue of scalability and replicability of ICTD projects.

In Kancheepuram district, <http://www.medialabasia.in/livelihood-2.html>, RASI (Rural Access to Services through Internet) kiosks were opened in 2004. Three years down the line, many of these kiosks are unable to sustain themselves independently and need a fresh breath of life. The SARI initiative (Sustainable Access in Rural India), a similar concept experimented in Madurai district of Tamilnadu also has failed to do any remarkable change. These are pilot projects which have given little confidence for others to follow. A private company LASON - India tried to establish a BPO in a complete rural area but today that is history.

The question is that there is something critical lacking when such projects are taken up and implemented. I think this is what we should explore and find solutions which may address the taking up of pilot projects. Questions like: is there sufficient skill development to allow for technology absorption? What is the critical period required for hand-holding in the case of such ICTD projects given a set of skill sets?

I put forward this discussion so that we really come up with some such solutions to the problems of ICTD adoption.

Vineeta Dixit, National Institute for Smart Government, New Delhi
(response 1)

I believe that there are two aspects that emanate from Satish's mail.

First is about end-users (although in all our internal communications we often term 'them' as beneficiaries and therefore in our mind 'we' ourselves are the providers) being made to suffer our experimentation with ideas about development and technology, irrespective of whether we know what we are talking about or not. Second is about 'altruism is might'. I would like to say something about the second part first.

In one of my classes on NGO Management, one of my classmates challenged my views and asked, 'Don't you believe in altruism?' When I responded in the negative, she indignantly wanted to know 'what was I doing in a NGO class?' This may not be a representative picture of all people who work in the development

sector, but in my experience most tend to believe that their altruistic motives seem to place them on a higher moral ground and therefore their motives or methods should not be questioned.

'It's for the greater good' seems to be a common refrain. I disagree.

More harm is often done by good intentions, especially if we are working with a subject as complex and contextual as development. Recently, there was an article by William Easterly in 'Foreign Policy' ([The Ideology of Development](http://www.foreignpolicy.com/story/cms.php?story_id=3861)) that illustrates some of these issues. It can be read at http://www.foreignpolicy.com/story/cms.php?story_id=3861. We may not agree with all of what he says, but he does raise some very pertinent questions about our methods and approach to development.

Now for the first part: Are our beneficiaries guinea pigs? If we look closely at the work of Robert Chambers and others who use PRA (Participatory Rural Appraisal), it will become clear that participation is not a one way street. The users as much 'exploit' the naivety of the 'development experts' as the 'experts' try to gain from such 'experiments'. In some cases both benefit from the exercise. More often than not, it is the case of a still-born child kept in an incubator and in case of ICT4D interventions, it is an expensive incubator.

This is not to say that experiments must not be done. But as people who claim to operate in a knowledge and networked society, we perhaps need to do a little more homework before we embark upon our experiments.

[Satish Jha](#), Digital Partners, New Delhi (*response 3*)

I appreciate your suggestion about the success stories. But do we know what is success in this case? Let us establish criteria that can help us understand success. Just like a great musician needs better ears than simply the skill to play the instrument, the metrics to judge is like the "ears" to improve what we do.

To accept a story as "success" when it may meet my personal criteria without a broader validation will raise the cost of learning even further. We need to elevate the debate beyond the received wisdom to how we may learn from the global best.

[Kris Dev](#), Transparency and Accountability Network, Chennai (*response 1*)

I think Amitav's idea emanates from the fact that there is no long term policy and lack of consistency and continuity. Most actions seem to be done with short term popularity in mind. Also, no long term permanent solutions are thought of. Most

often we tend to do fire fighting in our day to day lives and in the life of the citizens of the country.

We need visionaries and vision as stated by Satish. We also need them to work in a totally transparent and accountable way, to create a transparent and accountable society.

Kadambari, Indian Society of Agribusiness Professionals, New Delhi

The issue in question is undoubtedly debatable.

ISAP is an organization working towards dissemination of agri information/ services to rural communities through among others different modes of ICT.

I would like to share our experience for one of the projects, 'Soochna Se Samadhan' being implemented in collaboration with OneWorld South Asia (<http://southasia.oneworld.net/article/frontpage/158/1792>) to meet the basic needs of rural community that indirectly relates to the economy of the target beneficiary in question. The pilot phase of this was implemented in the villages of Himachal Pradesh last year and after visualizing the impact of this project, it has now been extended in more villages across Himachal Pradesh and also in villages of Madhya Pradesh.

As mentioned by one of the members during the discussion, the important component of replication is 'Resource Generation' to make such projects sustainable. Taking this into account, one of the main activities carried during this pilot phase was to strengthen the Community by involving local people in the project to get the views of the community itself. Based on the response of the farmers "beneficiaries" during the pilot phase, some critical modifications have been done in the implementation of the project for resource generation at the grassroots level in the second phase and it is showing encouraging response.

I would add here that these projects require not just a good management team but also a more community responsive system with scope of at-the-moment alterations.

Vikas Kanungo, The Society for Promotion of e-Governance (SPeG), New Delhi

Thanks for raising the issue of sustainability of projects aimed at rural areas. I, along with Mr. Umashankar, an IAS officer from Tamil Nadu had reviewed the Rural Access to Services through Internet (RASI) project while doing an assignment for UK government's e-democracy project. One professor from Presidency College of Chennai went around with a video camera and recorded the response of village entrepreneurs running these kiosks.

Our analysis was that the failure of the projects was due to the immature profit making approach adopted by the promoting organization and use of obsolete technology for the kiosks. The promoting organization was so busy in expanding the number of kiosks that it forgot to provide proper capacity building and support needed for the villages who had already taken the kiosks.

My suggestion is that when we pursue any initiative in rural areas,

- we should not dump obsolete systems on them
- even though profit making and sustainability is an important part of any venture to succeed, we should separate greed from sustainability. There is a gestation period even for corporate ventures during which the project needs hand-holding and complete attention of the promoters. I feel that was lacking in both SARI and RASI projects. As soon as the franchisee fee was realized from the village entrepreneurs, the promoters moved on to create more kiosks rather than helping the existing ones to be sustainable and finally profitable for the villagers.
- any initiative in rural areas should have the most robust technology deployment as it is difficult to provide support services on a frequent basis. This is again an area ignored while doing RASI and SARI, as CorDECT (<http://en.wikipedia.org/wiki/CorDECT>) technology deployed does not support full duplex video communication as promised by the projects to the entrepreneurs.

Note: I have seen the photograph of the same villager showing a vegetable with disease and getting it cured through a telecenter facility in five different presentations made by five different organizations. We should concentrate more on delivery and less on presentations along with total involvement of all the stakeholders right from the conceptualization stage. That may be the mantra for sustainable rural ICT projects.

I have commented only on SARI and RASI as these were the projects mentioned by you. There are many other projects in rural areas that require a serious analysis. Will comment as and when discussion on such projects comes up and if I have analyzed those.

Mark Surman, Telecentre.org, Ottawa

One useful resource to look at is Manobi: <http://www.manobi.sn/sites/foundation/website/?M=2&SM=6>

Kris Dev, Transparency and Accountability Network, Chennai
(response 2)

Thanks Sujatha for raising a very pertinent issue.

My observations are also the same. I had addressed about 50 Chirag (RASI) kiosk operators / entrepreneurs (mainly women) in Thiruvallur district. The operators and the community were ill prepared for the ICT activity, except in the case of one operator who has a centre in a semi-urban area, an ex-Town Planning Official who helps to issue housing plans for approval.

Some of them had not opened the kiosks for days, as it was located in a distant place from their residence. The kiosks were housed in Panchayat office, which already had a computer, but hardly used. Many in the local community were not aware of the existence of such ICT kiosks, when we tried to locate them in the village. The youth used the kiosk for browsing porn sites and viruses had crept in and shut down the computer. There was no proper maintenance support.

These issues came up in the various presentation made in the recently held National Alliance for Mission 2007 Workshop on "Strengthening the Linkages of different ICT4D models" coordinated by MSSRF at Chennai.

I made a presentation on 'e-Administration', an e-Platform for e-Governance, to integrate the vertical and horizontal hierarchy of the Government and the citizens in a single platform for establishing seamless communication and tracking of all activities / transactions from birth to death. It can also be used to track the benefits due to citizens and actually received by them using ICT kiosks, to alleviate poverty.

More details can be seen at <http://l2b.blogspot.com>.

Vickram Crishna, Radiophony, Mumbai

Vineeta Dixit wrote, "Now for the first part: Are our beneficiaries guinea pigs? If we look closely at the work of Robert Chambers and others who use PRA, it will become clear that participation is not a one way street. The users as much 'exploit' the naivety of the 'development experts' as the 'experts' try to gain from such 'experiments'. In some cases both benefit from the exercise. More often than not, it is the case of a still-born child kept in an incubator and in case of ICT4D interventions, it is an expensive incubator."

Is it really more expensive than doing nothing, or than depriving people of land, livelihood and tradition in the name of 'development'?

Why is it an incubator? Do we not see time and again that the moneys that are being inducted into the cause of such 'incubation' are actually earmarked for 'pilots', not incubators? Naturally, when the intention is clear, the results are also clear, and dismal.

Development cannot take place without participation. It is not altruism to spend time, money and effort on smoothing out the cracks between the so-called modern world and life on the rest of this planet, but rather it is utopian to imagine this will come about at a trivial cost.

Shitalkumar Joshi, S. S. Mandal Sagroli Nanded, Sagroli

In Sagroli village, due to implementation of TCL and SSK program at Public Library, there is substantial growth in adult literacy especially among women. Surprisingly, the rural people are taking their own initiatives for teaching other people and helping them become familiar with computers. Women who had never seen a calculator before are smoothly handling the PCs.

As a result of this, various farmers are also attracted toward the Village Knowledge Centres (VKC) for browsing many useful sites like aqua, agrovan etc. which are in local languages.

As per my experience, children could play a crucial role to spread information about the advantages of VKCs to the local community. We are motivating rural people to become entrepreneurs through SHGs.

Satish Jha, Digital Partners, New Delhi (response 4)

The two links given by K A Raju are very interesting. While the first ([ICT4RD](#)) lists the projects, the second (ICTs for Development Projects in India <http://www.solutionexchange-un.net.in/ictd/cr/res19060701.doc>) cuts across the range and comes up with a list of features that run across the ICT for Rural Development canvass.

However, while Chetan's paper aims to be comprehensive and is a quick, practical read and very helpful for those looking for dos and don'ts, with all the wisdom we have managed put together, we need to take a view from the point of how to make them work rather what worked and what did not.

That relates to how to trigger viable initiatives that quickly scale up. From all the experience put together (and looking at the NIRD list I have been a part of about 5% of all initiatives and going by Chetan's list, a larger proportion of analysed projects in the space we are discussing) what seems persuasive to me is that we have an "agency" question: who/what, if any, is the most appropriate initiator/vehicle for taking the pilots or projects to the next level where they become sustainable, replicable, scalable, expandable in scope and commercialisable.

In my view, unless we identify the right leader entrepreneur, mentor them with all

the requisite capabilities (presuming they need the experience and are passionately open to learn and to translate the learning into making their endeavour a success), create the layers necessary to support as required, create an external monitoring organisation that can help them in various ways from diagnostics to fixing a problem and create them outside of any bureaucratic or "altruistic" non-profit framework, these will continue to be more of the same.

These suggestions are over and above what Chetan has identified. That list is very helpful to start planning. However, in order to take the road to success, we need a framework that can put the pieces of the puzzle together, dynamically. I do believe eChoupal and SKS are perhaps the two most successful models so far and they will continue to scale up at a pace most plans do not consider feasible. And have a lot to teach us as to what succeeds and why.

Ninad Vengurlekar, IL&FS, Mumbai *(response 1)*

1. The skill-sets required for piloting a Social idea are passion, commitment, innovative modeling, team spirit, patience and some amount of funds. The skill-sets required for scaling an idea are ability to raise capital, form an organization, undertake channel management, marketing, team building, leadership, vision, focus, etc. Both these skill-sets require different profile of people and mindsets.
2. Many a times, pilots are undertaken without a specific plan for scale. As a result, during the scale up process, a lot of unresolved issues act as constraints and negatively impact the long term sustainability of the idea. A bad implementation plan can ruin a good idea.
3. ICT projects need to resolve these issues at the planning stage itself. Unless this discipline is inculcated, ideas will continue to emerge but implementation would continue to fail.

Ujval Parghi, Shree Kamdhenu Electronics Pvt. Ltd., Anand

I would like to share AKASHGANGA's knowledge and experiences in a providing simple but appropriate ICT solution that facilitates timely collection of milk and thereby generates higher earnings for milk producers in rural areas of India.

AKASHGANGA (meaning 'The Milky Way') is being used at the Dairy Cooperative Society (DCS), which is a farmer-owned, grass-root level unit in the cooperative structure. All the farmers (members) of the DCS congregate twice a day at its premises to sell milk. Before AKASHGANGA, all the milk collection activities were performed manually. Due to the climatic conditions, milk would often get spoilt, as producers had to wait in long queues. Secondly, the payment for the milk sold would get held up. The simple technology used in this product has enabled the

timely collection of milk and thus, generated higher profits for the producer, now paid well in time. A basic milk collection transaction done by AKASHGANGA comprises:

- Measuring weight of milk with Electronic Weighing Scale
- Fat testing using Milko Tester
- Capture of unique member ID by the PC software
- Printing of pay slip, with all this data and the amount to be paid

The key success factor in the cooperative movement is the ease and efficiency of the milk collection system, whether done manually or with IT. The elimination of the middleman, accurate fat measurement of milk, thereby enabling the producer to get higher profits, are the basic pillars on which the design of the cooperative movement stands. AKASHGANGA has been implemented at more than 1000 locations. At each and every location, it is being used 365 days in a year, and for more than 6 hours in a day. The members of the DCS are so attuned and dependent on this system, that it can be compared to any online heavy-traffic application! What started out as a project, at 5 locations, is now a full-fledged product, with after sales services and so on. Earlier the member had to wait in queues and often, in the heat, the milk would spoil. Thus, he could not sell his milk at all. With AKASHGANGA his wait is reduced to a few minutes, thus assuring that not only is the quality of milk maintained, but also he gets his due money. With so many farmers dependent on dairying as a supplementary livelihood, this money goes a long way in sustaining him and his family.

You may find more details at www.akashganga.in or

www.digitaldividend.org/case/case_akashganga.htm and news.bbc.co.uk/1/hi/technology/3242948.stm

Video: Live Akashganga Automatic Milk Collection Systems at Village Milk Cooperative <http://video.google.com/videoplay?docid=-4798081312524005219&pr=goog-sl>

Geeta Malhotra, OneWorld South Asia, New Delhi

Thanks, Vikas, for raising the issue of capacity building, which is one of the important components of every ICT project we aim at in rural areas. Not only capacity building, but proper infrastructure, connectivity, care and management are also the challenges which the implementing agency has to take care of and liaise with other government/non-government agencies.

OWSA's experience of taking ICT to rural areas brings out that there is a need for hand-holding of the rural communities for quite some time, and it should not be

based on the project duration per se. Though we talk of sustainability, we should not jump over profitability from Kiosks.

OWSA has also experienced with many models of Kiosks/Information Centers/Knowledge Centers - whatever we name it. If we really want to empower people in rural areas and would like to address the knowledge poverty, there is a need to have a common consensus on well-defined strategies, of course focusing on self-sustainability.

Tanweer Azam, NASSCOM Foundation, New Delhi

The issue raised by Sujata is very valid. Sustainability of ICT projects is a major issue staring in our eyes. A lot of ICT for D project have started with much fanfare in the past but they fizzled out after sometime. So much so that India could be called a graveyard of pilot projects.

There are a lot of things which make these projects sustainable for long time. We at NASSCOM Foundation are running 100+ centers under our NASSCOM Knowledge Network programme in partnership with grassroots NGOs. We have our centers all over the coastal corridor of India. In a way you can say that we have a pan-Indian presence. Our mandate is to make these centers sustainable through different programmes. Some of our centers are already sustainable and they are generating good revenue to maintain the expenses of centers. Some of our centers in West Bengal, Hyderabad and Maharashtra are already self sustainable and running.

I am quoting this example to show that there is always light at the end of tunnel. The need of the hour is to come together on a common platform and share our expertise with each other. Then only we will be able to tame this big elephant. Peer to peer learning is the only way to tackle this issue and I am sure we have enough competencies among ourselves to get it done.

Vineeta Dixit, National Institute for Smart Government, New Delhi
(response 2)

Vickram wrote, "Is it really more expensive than doing nothing, or than depriving people of land, livelihood and tradition in the name of 'development'? It is not altruism to spend time, money and effort on smoothing out the cracks between the so-called modern world and life on the rest of this planet, but rather it is utopian to imagine this will come about at a trivial cost."

The point I was trying to make was not that money should not be spent on 'development', but we need to seriously review what we term as 'development' per se and why do 'development experts' raise themselves on a higher moral

ground when their methods and motives are questioned, especially since there is very little proof on ground that actually supports these very methods.

As much as we need dedicated people who work with the underprivileged sections of the society, we must also make ourselves more open to debate and scrutiny about our methods and motives. Altruism from my perspective ought not to be the veil with which we cover our work.

Satish Jha, Digital Partners, New Delhi (*response 5*)

Thanks, Sujatha, for reminding us about SARI.

I know it from 2001 and it's clearly older than that. It's a good case in point where a great deal of intellectual input has not led to any value creation of the kind initially envisaged. My take on that was that just that IAS officers do not have the necessary training and experience to create with technology (exceptions like Rajesh Rajora, Rajeev Chawla and Vivek Kulkarni et al apart), the academic also do not have the experience to create businesses (again, there are some who have done an amazing job of creating businesses from academia and I would put them in the exception bucket).

Colin McClay of Harvard and his friends from MIT spent enormous amount of time trying to take SARI from pilot to production. When what it needed was simple business logic. Replication is about getting the simple business logic at the level a particular experiment operates. Think of SKS. What made it start with a \$30,000 grant from Digital Partners to become one of the most successful experiments that has been scaled up to more than a million users and several million dollars in revenue? I would think its leadership, passion to make it succeed and do what it takes to go there, assimilating the learning from those who have succeeded with it before and learning to take right decisions every time along the way. The rest of the matters are more of a detail that can be handled with a team that knows how to take the right decision and that comes from a business focus.

Businesses succeed because of the decision making capabilities at the level of business head, the founder, the CEO etc., and seldom because someone may take one decision right at the technology level alone.

H. K. Mishra and B. N. Hiremath, Institute of Rural Management, Anand (IRMA), Anand

We have been regularly browsing through the responses on this important topic. It is nice to understand your diverse view points. We are encouraged to share our views on this matter as follows:

Introduction of ICT in the development arena has gradually gained momentum in recent years and many pilot projects have been taken up by government, public as well as private sectors. Abundant opportunities exist to introduce ICT in the area of governance to provide better services to citizens. E-governance and e-government applications embrace ICT as a critical component and expect integrated efforts to improve citizen interfaces and services.

In India, the e-governance system is still evolving and is not free from failures due to poorly aligned processes. These failures are predominant in rural India. In this sub-continent, one of the major concerns is arranging "sustainable livelihoods security" for rural citizens. Role of ICT in this complex issue is rather specific in providing information to citizens, aiding entrepreneurship and supporting social and economic enterprises, maintaining transparency in governance system, aiding decision support systems of village institutions as well government administrators.

There are many successful ICT initiatives in India oriented towards rural development with a focus to address some specific issues of rural citizens. National e-Governance plan (NeGP) recognizes the vitality of some critical, but successful ICT initiatives in this regard since failures are also not uncommon. NeGP therefore, urges for proper identification of sustainable projects for their inclusion as mission-mode projects for scaling up at national level. But ICT infrastructure readiness is essential for such ventures. Providing ICT backbone uniformly and rendering desired services on demand at village level is a daunting task for the policy makers.

The digital-divide (lack of e-readiness) still exists in varying intensity across states, districts, talukas and villages in India. In order to make the e-governance plans successful and sustainable in rural areas, e-readiness as well as citizens' acceptance of ICT as technology needs to be managed. Our extensive interaction with rural citizens has indicated that they are eager to embrace any type of innovation provided that these are central to their livelihood security. Everything else is secondary to them. Policy makers need to appreciate their concerns and attempt to support their livelihood systems at local levels. Therefore, we strongly suggest that:

- Village information systems need to be developed through rural citizen participation. This will incorporate their demands at local level.
- Policies like NeGP, NREGA etc. should support these village information systems.
- Enough experimentation has been done. It is now time to implement the experiences learned.
- We should not be suspecting each others' view point, rather respect each

other to implement SMART governance at village level which is easier said than done.

- We should stop using terms like “guinea pig” which is a narrow view point. Rather we should treat rural citizens as partners and let them lead us in the process. Policy makers and implementers need to understand that ICT enablement is not a favour that they extend, but it is an obligation on their part.

If interested, you may visit the following URL for our working papers:

[Http://www.livelihoods.org/hot_topics/ICT4D.html](http://www.livelihoods.org/hot_topics/ICT4D.html)

Rajen Varada, Technology for the People (TFTP), Bangalore

There have been many responses to the query and I will try to add my two bits to the spectrum of thoughts shared.

The ICT industry I believe is trying too hard to succeed. It needs to stop focusing on itself and instead focus on the rural people and village economies. ICT is only an add-on facilitator. It is like a finger pointing to the moon, we are so focused on the finger that we are missing the heavenly glory the finger is pointing at.

Many pilots do not involve the beneficiaries from day one and do not incorporate the prerequisites required to take them to scale. Pilots in their desperate effort to succeed, by-pass ground realities and these are the basis of the cemetery of pilots we have today.

Such pilots are but a walking shadow, a poor player, that strut and fret their hour upon the stage, and then are heard no more; they are experiments conceived by people totally disconnected from grass root reality, full of excellent presentations, signifying nothing (my apologies to the bard).

I suggest we consider which are true pilots and which are experiments conducted by excess of donor and government funds. Some of the prerequisites could be power, local economy, local needs. I believe that we will be doing ourselves a favour and saving a lot of money (and the agony of watching pointless PowerPoint presentations in various seminars) if we together set quality standards for ICT pilots, these need to be arrived at with involvement of all players in the field including the community. We need to look at the pilots and thoughts of the past 25 years and decide which need to be put into the trash bin and which can work with a little tweaking. And once trashed let us stop revisiting them and rehashing them.

Pilots which meet the basic prerequisites will ultimately in the churning of initiatives give us nectars of learning and models which can go to scale with local flavours. There are no short term answers here and those who are committed to

the long haul and have been doing so till now constantly learning from mistakes and not repeating them will hopefully redefine the ways we look at how information, communications and technologies can add value to rural people.

D. S. K. Rao, Cybermate Infotek Limited, Secunderabad (response 2)

I fully agree with Harekrishna's view point. I also would like to add that we should somehow rope in 20 million NRIs & PIOs, some of whom are very keen to give back something to the place they originate from.

Ujjal Hazarika, NASSCOM Foundation, New Delhi (response 1)

I would like to add a few words to what Rajenji has written about

Over the past one year I have had the opportunity to go many places which in a true sense are rural and also had an opportunity to witness how these rural incubators of knowledge are performing. One thing that stands out spectacularly is the felt need for these rural knowledge incubators which have started the process of enabling and empowering the un-reached and started the process of knowledge gathering in the local communities. Though these processes have a long way to go, the felt impact of whatever little they have managed to do in these local primary societies is a learning for ourselves

To look at these un-reached villages in isolation and as a bad plaster on a buoyant economy creates divergence and a set of unwanted citizens unless we work in an integrated and inclusive manner by taking the fruits of knowledge and information to enabled rural citizens who then can explore and achieve whatever they do with their lives in a more empowered and knowledgeable manner.

Forgetting the linkages that ICT can have and contribute in a realistic manner with right content in various cross sections of our lives even in a rural demography has to be considered and provided for.

Sustainability aspects of these centres are being repeatedly questioned but what we have to look at is a totalistic view of a sustainable rural intervention and these include a social return on investment, wealth creation in the rural society with knowledge enablement, some aspects of keeping them operational in a financially viable manner etc., but what is mandatory is that we look at moving from a pilot syndrome that we have locked ourselves into and expand into larger foot prints of reach and take our work further.

For this I agree with Rajen that this is a long haul and we need to be more resilient and take our interventions in a bigger manner. Anyway, in the dynamic environment we are living today the gaps will be filled as people's needs have to

be serviced and they will be the mode of delivery and time is the only consideration.

Satish Jha, Digital Partners, New Delhi (response 6)

Thank you for voicing the concern of the "people". There is a lot of merit in some of the symptoms you have alluded to. But that may not be the disease we are trying to cure.

The problem does not lie in a PowerPoint presentation or donor funding an experiment versus a pilot. The key point of concern is that those engaged in trying to utilise information technologies for the development of the rural areas themselves may not have done that before and may be on a learning curve.

By "involving" the beneficiaries from day one we may not really achieve any more than engaging young students to design the curriculum they will study next year. Frustration with what has been happening is one thing. Seeking panacea on the grounds of frustration will hardly leave us any the wiser.

Sagarika and Nasscom Foundation began a very interesting and useful discussion and it requires us to set aside our frustrations and prejudices and seek what may work.

Kris Dev, Transparency and Accountability Network, Chennai (response 3)

I fully endorse the bold views expressed by Rajen. There have been too many conferences and seminars - national and international in five star hotels, on how to transform rural India, without any clear agenda.

Talking is talking and doing is doing. Let us do and then talk about it, rather talk and not do!!

On our part, we have been successful in demonstrating a proof of concept for implementation by Govt. of Bihar, for streamlining NREGP implementation at the grass root level. We demonstrated to Mr. Nitish Kumar, Chief Minister of Bihar and he gave a spot clearance for carrying out a pilot in one block, before extending it to the whole of Bihar. More details can be seen at <http://www.indianexpress.com/story/33365.html>

Further action is awaited on this.

Deepa Prabhu, ICICI Bank, Mumbai

It is sometimes helpful to take up a strategic issue in addition to operational ones

too. I wish to warn in advance that this is a slightly long one. All views are personal.

I will make a reference to some earlier forum queries such as ICT for traceability, disaster management and the post office / CSC query and let me begin by saying how much the piece on ICT in India's North East region in the previous issue of the Community Update (http://www.solutionexchange-un.net.in/ictd/comm_update/ictd-update-03-150607.pdf) brought out by the ICTD Resource Team influenced me. ↘

Is technology only for the urban people? This is the question they raised.

So I will begin with this thought, and a reference in passing to the ICT for disaster management query. I did not get a chance to respond to that and saw the many useful contributions, but I'd like to share my experience from being at two areas of disaster in two different parts of the world. One was in the floods of 7/11 in Mumbai floods, and another time when I was in the Caribbean when an earthquake that measured 7.0 on the Richter scale hit the island.

So, disaster management (solutions) and urban privileges, or lack of it: 7/11 in Mumbai has been extensively documented and the only two lifelines available during those days of incessant rain was one, a private FM channel and the other Rediff.com, both which flashed updates, requests, news, people asking about their loved ones etc. Even this was available only to those lucky to have power even in large posh complexes, as one of the power utilities had switched off all supply as a precautionary and repair measure. Water, power, newspaper, supplies all were affected adversely. Mobile networks were also down for large parts of time. Two years later, the fear is still very much unabated. Local people in suburbs like Chembur have formed small self help groups and demonstrated how lifesaving equipment such as floats etc can be made with discarded plastic bottles, tyres and everyday items.

It is the innovation and self-reliance of people in the ground and not any authorities or ICT solutions that the common citizens rely on. This is because after the disaster and the rhetoric, much is forgotten. Even horrendously neglected. And no visible changes are perceived at the ground level.

People in the Caribbean region live with cyclone forecasts almost all through the year, disasters happen routinely and so everyone is aware/committed to dealing with it the authorities and the citizens. At regular intervals in the newspapers and media, there are advertisements about what to do in case of emergency. Maps and contacts of closest shelter are given for reference. List of what to stock (food items, candles etc) is published. Dummy evacuation procedures are held etc.

In contrast, neither the government nor the best media house does that even in the most urban city of Mumbai. I have no idea where the closest shelter is in case of any natural disaster or emergency. Is there a concept of shelter at all? For

instance, Singapore subways are designed to become emergency shelters in case of war, chemical or natural disaster.

While many ICT solutions are relevant, what makes a difference is what is done on an ongoing basis during the time when there is NO disaster. Are more trees planted, are shelters built, are maps and emergency procedures available, explained and kept up-to date? In doing so, what is the scope for ICT interventions (better logistic and supply chain solutions for food delivery?) I make references to this merely as an instance of how the primary goal needs to be clear. Governance has to be an ongoing commitment and not only confined to development of technical systems.

Beyond the definitions, what does it mean when we use terms such as scalability, development, ICT and even e-governance. We all discussed how post offices could become CSCs. How will it change lives in a significant way for the people involved? Does post office staff have minimum amenities? In Mumbai, they barely have fans in the room during summer and broken windows and peeling paint. Do the postmen have cycles, houses to stay or home loans, insurance and such, medical and other benefits that work?

What does development mean to the people? ICT projects are as such largely seen as putting some activity or application online. But it is not really only restricted to such a narrow definition or scope. While ICT discussions focus on the "E" in e-governance, it is also really more about the "G". Is the governance, transparent, free of corruption, caring about welfare, and effective? Then the technology system will enable it to be more effective (thus enabling it to be scalable). If not, then the technology system has the hurdle of first to ensure it overcomes the ills of poor governance, which is not really its primary task.

Systems cannot replace bad governance or limitations in environment. For instance, early warning system is of no use to me if I have no shelter and escape routes. Thus systems begin by battling other factors, hence lose steam and impact. I think the problem (and solutions) begins with how we understand issues. After ICT professionals seek to put some applications and services online, unless it makes and brings a visible and better change and impact in daily life, it is not effective. Hence it never goes beyond pilots or small success and failures.

Again, in technology solution development and implementation, the end user is not to be dazzled by "see how wonderful this application is". The user needs to be comforted or assured by, "Will this save my buffalo that is ill?" or such - i.e. Benefits v/s Features. The issues are true of many other projects too, which never go beyond pilots even large projects and investments with strong management backing, and the people behind it wonder why the silver bullet failed.

On leadership and management skills on all counts I never tire of replying as many times as the question is asked just look at the examples of dairy farming

(and newer, microfinance). Both examples are of grassroots levels, in rural areas and with a combination of technology and other management factors that have proved successful. I don't think it is necessary to opt for simple, low cost or indigenous technology to ensure success (the questions about dot-matrix v/s laser printers and such). That is an outcome of funds and budgets available. In fact the best global technology was made available to villagers to determine the fat content in milk in Khera Dist., more than twenty five years ago. And it worked.

Leadership is oft quoted, but again leadership is at all levels and from all quarters. One person may act as a catalyst at best. While Dr. Kurien is the father of the White Revolution, it is the millions of women at the grassroots who make it work. It is the same with SEWA or LIJJAT Pappad. Small enterprises like agarbatti and beedi making that changed the face of rural economy in South Kanara do not even have any one personality behind it.

Last week I read about PPP in Spices Farming in Assam and another one on how women in small towns are doing wedding shopping online for jewelry. Without doubt, ICT solutions are making access and reach available in many ubiquitous ways and we should not for a moment think it is not scalable. We need to be sure what we mean exactly when we discuss scale. To be effective, scale is one indicator, but so is replicability as has happened with the co-operative movement. From milk to oilseeds to fruit, fish and sugar. While milk and oil have flourished under the Amul/NDDB, sugar as all know is rampant with tales of corruption.

People behind any venture need to see it as both a mission and a passion and a business proposition. Technology, Funds, Leadership, Zeal, Participation - it is no longer about "Or" but "And". There are also many other reasons that influence projects Political, Legal, Statutory, Social, Emotional etc. Janagraha (a great idea in my view) is still only confined to one or two cities. Even within Karnataka, it has not spread like wild fire as I thought it should.

So is it about technical capability or more? Even today how many urban users do tax returns online? It is technically possible and users are well educated but it is still a cautious approach by users. It is a question of faith in the systems (both online and offline). Will it work? What if it doesn't? What recourse is available to me? Poor legal recourse is a huge stumbling block.

Whether urban or rural, the underlying factors remain the same reach, simplicity, trust, relevance, need, recourse, training, compulsion etc. This also in part explains why corporate projects are successful (there are many which fail and don't go beyond pilots there too). Accountability for execution and support/recourse is available in most cases. Going back after the project is over and evaluating it, ruthlessly if required is done.

There will be losses and failures. To stay with them, not give up or to look beyond them and move quickly on to the next, the ability to learn from lessons both

failures and success, share knowledge resources is the key, which to some extent which we try in forums such as these. While it is important to keep learning and innovating and doing more, it is not true completely to say projects don't go beyond pilots. NDDDB/AMUL is the best example or case study we have of projects that have centered around the goals of meeting basic needs of agrarian rural communities and successfully creating an alternative economy.

In this and in examples of SEWA, LIJJAT etc we have instances of ICT interventions that have helped develop rural communities from consumers to producers. (I'm not too sure if I can buy online from SEWA, can they export their creations and so on but this is the direction I would look at). Do we really need more and other varied examples than AMUL? The taste (and test) of India?

Ninad Vengurlekar, IL&FS, Mumbai (*response 2*)

Rajen's views are true representation of a majority of pilots (and PowerPoints).

Beneficiaries may not understand ICT, but they do understand what they want. And what they want is a non-negotiable outcome that ICT needs to deliver.

Let us take a few examples of what outcomes do beneficiaries (rural villagers) want and what is it that ICT should enable for them:

Agriculture:

Outcome: Better Rates for Produce (not online market rates)

Service that could drive this outcome: Agri-procurement

Services currently offered by ICT pilots: Online Market Rates and Agri-consulting

A Scalable Transaction Model for ICT: Partnering with large retailers and integrating ICT based agri-projects into their supply chain

Banking:

Outcome: Cheaper Credit (not downloadable forms or insurance products)

Service that could drive this outcome: Bank Loans, forming SHGs, Deposit Mobilization

Services currently offered by ICT pilots: All the above, but in a limited way

A Scalable Transaction Model for ICT: Working with large banks to integrate and ICT enabled Business Facilitator model proposed by RBI

Education and Training:

Outcome: Livelihood Opportunities (not knowledge alone)

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Service that could drive this outcome: IT Training, Spoken English, Vocational Training

Services currently offered by ICT pilots: All the above

A Scalable Transaction Model for ICT: A VSAT based e-Learning Model/A CD based offline learning model that involves local teachers as tuition providers

ICT has delivered much more complex solutions for urban consumers like us. Why is it so difficult then to deliver the same value for the rural consumers? We can argue about absence of economies of scale, illiteracy, limited connectivity, etc. in rural India. But businesses like retail, telecom and FMCG have penetrated the rural markets despite of all these constraints.

We need to study these models and replicate them in the ICT projects that we undertake. Partnerships with such businesses are another aspect that needs to be considered for scale. Because NGOs know development better while businesses know how to scale. HLL planned 'Shakti' this way. Today 20,000 women are generating business worth 250 crores a year for the organisation. Similar approach needs to be developed for ICT projects too.

One solution could be that we should stop calling our experiments as 'pilots'. This can bring about a huge perspective shift in the way we plan and implement ICT projects. An ICT project should be rolled out in Phases not pilots. So Phase 1 could be in 10 villages and Phase 2 could be in 100 villages and Phase 3 could be in 1000 villages. However, a plan needs to be developed for 1000 villages before we start Phase 1. It is what we need for 1000 villages that should be undertaken in 10 villages.

Only such an approach would save us from working on pilots that may not actually scale in the long run.

Ramakrishnan D, Gomathy Foundation, Tuticorin, Thoothukudi

I agree with Vikas Kanungo's observation. I myself was enthusiastic in setting up a RASI centre inaugurated by the District Collector, Thoothukudi, in Ammanpuram where my organisation is located. But for three reasons it could not take off.

1. Services were inappropriate or not having commercial value.
2. People were unaware or not satisfied with the services promised by the system.
3. The technology

A deep analysis shows that the model has to be viable. The services are to be clear and assured. The system should be fool proof.

Suppose we take the case of issuing of Income Certificate by the Revenue

Officials; existing corrupt practices neither allow the client to use this technology nor is the official interested to respond to the application. Ultimately, the entrepreneur or kiosk operator cannot guarantee results to queries and are not sure of getting service charges, as the customer is not satisfied. Economic viability becomes a question.

Apart from this, Skill Training for adopting Appropriate Technology is lacking.

Hence a strategy must be devised to address these issues.

Satish Jha, Digital Partners, New Delhi (*response 7*)

Thanks to Deepa Prabhu for her very insightful observations and comments.

I would argue that web based technologies have for the first time allowed villages access in less than four generations of technological change. If at all, this is for the first time in history of technology that villagers need not ask if this technology is only for urban people. Then again, they may feel so given their own level of being deprived of these experiences.

Of course you are approaching the subject from using technologies in extreme situations, in this external extremes of use, not in testing the strength of the system, but its organization to respond on the boundaries of our experience.

As a nation, as a culture or society we have not experienced extremities save in some pockets and treated that as exception. We do not plan for these events that happen in an unplanned way. A number of efforts that we saw since independence were borrowed from the western responses to similar crises and I will be happy to note exceptions if there were any.

The key arguments that you offer are that people rely on local innovation and not on government created solutions; that there are factors that cut across various divides and that we have examples like AMUL that have apparently these questions a while ago.

I readily agree with you that its not about adding "e" to governance but getting the government to function better. The enthusiasm of the promoters of technology created a new name and took us far away from the essential goal that of improving governance, making life easier for all citizens (there is a bias in all people being called "citizens", may be the feudal "subject" was more neutral but "citizens" offered a dream. Now is the time to shed "citizenship" of its urban bias and technologies can help us quite some way on that path), all people!

You are right that Systems cannot replace bad governance or limitations in environment as also the problem (and solutions) begins with how we understand issues.

Its not about the "best" technology as much as its about a solution that is readily acceptable to those who need to use it. As C K Prahlad loves to harp on, its not the cost alone as the poor are willing to pay for the education of their kids if it really helps. But these poor do have a little more than the cost of meals and shelter in their income basket. Its not true for the poor who lack both sufficient food and shelter. So the cost is always an issue. The solution that takes into account what will work and then tries to find an acceptable price point will often be more acceptable than a cheap one.

As regards leadership, what is needed is the skill to lead just as talent may be desirable.

Scale does not really happen unless a solution is replicable in the first place. I could not agree more that it's a portfolio of critical factors after a problem has been identified and a solution visualized that make it work. Ranging from a visionary leader to managerial skills, communication along with the tangible factors like funds, technology etc all goes to make it work or fail. Its indeed about "and" rather than simply "or".

Technical solutions are always a bit easier and happen as an externality. Its adoption is where most of us can contribute a bit more productively. That's what, I believe, this discussion is mostly about.

True there are success factors that cut across various divides like urban and rural and in the non-profit and government sectors most of those critical success factors are a bit rare to find. By pointing out to Amul after 50 years you have once again underlined that scaling up is an exception rather than a rule.

Not every solution may be scaled up. But those that meet a need of the time will find a way provided they have a Kurien or an Ila Bhatt to lead them. Information technologies will create its own Kuriens and Bhattts. What Sagarika is perhaps asking is how do we make more Kuriens and Bhattts, more SKSs and eChoupals? You could have also mentioned the way telecom revolution spread across the nation. First in a governmental way (a la Sam Pitroda) and then through the technology driven, large scale solution by mobile operators and that was not something a non-profit could have done.

AMUL is something that happened once and transformed an industry and the lives of millions of dairymen. Kurien had to fight his battles and he won. We need a lot more than just an AMUL. We need thousands of AMULs to address the material issues of a billion mouths and a couple billion hands. And that's what Sagarika's questions beg to understand.

Ujjal Hazarika, NASSCOM Foundation, New Delhi (*response 2*)

Before the discussion concludes, I would like to make a few points that actually hold true for a truly sustainable village knowledge centre

1. Ownership of the community - which happens where after a period of hand holding even an exit does not matter and we will have communities hold on and operate the centre without support
2. Localised content support-: a must for succeeding in any rural set up in India. You cannot address this issues on an English orientation basis
3. A fair mix of paid services and Social goods where by the social services in your basket generate a intricate demand from within the community to actually take on paid services so as to keep the centre viable and sustainable
4. Capacity building at the last mile wherein the last mile operators are trained so as to enable to deliver the basket of services
5. Continuous dynamic content Updation: as static content in a basket is not good enough if we want to create a knowledge enabled society even in our rural areas

A. Prabakaran, Public Action, New Delhi

In 2000, there was a big talk about empowerment of rural areas through ICTs. The groundbreaking was done and few commendable activities were carried out for next few years. After 2004, the rural development through ICTs is ignored with more priority accorded to mobile telephony. Nevertheless, it is high time to revive our interest in this sector.

Public Action provides computer education and internet training to students in government schools in villages of Namakkal district in Tamil Nadu. When they master the art of surfing, they can teach the elders at home. With this method now, many people in that area have learnt browsing.

A large-scale investment in ICT infrastructure and teaching is required in rural areas.

We express our complete solidarity with NASSCOM Foundation in this mission

M. V. Ananthakrishnan, Indian Institute of Technology (IIT) Bombay, Mumbai

May I request my colleagues to have a look at the paper on Funding Educational Development (<http://www.solutionexchange-un.net.in/ictd/cr/res20060701.doc>) please?

Many thanks to all who contributed to this query!

If you have further information to share on this topic, please send it to Solution Exchange for the ICT For Development Community in India at se-ictd@solutionexchange-un.net.in with the subject heading "Re: [se-ictd] Query: Spreading the ICT Revolution in Rural India- Experiences; Examples. Additional Reply."

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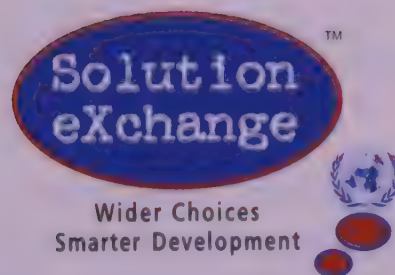
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ICT for Development Community



List of Consolidated Replies on the ICTD Community till October 2007

QUERY CONSOLIDATED REPLIES

Involving Local Governance Structures in the Common Service Center Scheme, from J. Satyanarayana, National Institute for Smart Government, Hyderabad (Advice) Issued 21 December 2006

Available at: <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-21120601-public.pdf>

Experiences and advice on the crucial need for local government support for the success of Common Service Centers (CSCs)

Computer Literacy Programmes in India, from Nomenita Chetia, New Delhi and Joyojeet Pal, USA (Examples; Experiences) Cross posted with Education Community. Issued 30 December 2006

Available at: <http://www.solutionexchange-un.net.in/education/cr-public/cr-se-ed-30120601-public.pdf>

Experiences and the impact of effective computer-enabled programmes in imparting learning to children in government schools

ICT and Livelihoods, from Anita Gurumurthy, IT for Change, Bangalore (Experiences) Issued 22 January 2007

Available at: <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-22010701-public.pdf>

Experiences on the socio-economic impact of Information ICT interventions on livelihood projects in rural and urban India

Application of Remote Sensing in Agriculture, from Anil Kumar, Agriculture Today, New Delhi (Experiences) Cross posted with Food and Nutrition Security Community. Issued 9 February 2007

Available at: <http://www.solutionexchange-un.net.in/food/cr-public/cr-se-food-ictd-16010701-public.pdf>

Explores the possible usages of and issues related to new technologies in agriculture, especially remote sensing technologies, GIS and GPS applications, citing experiences in this regard

Training and Mentoring Programs for ICT Enabled Rural Entrepreneurship, from C. Vasant, Rural Technology Business Incubation Group, IIT Madras, Chennai (Referrals) Issued 21 February 2007

Available at: <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-15120601-public.pdf>

Refers suitable networks, programmes/partners for training and mentoring programmes for ICT enabled rural entrepreneurship in Tamil Nadu and neighbouring states

Setting Up and Running a Community Radio Station, from Lakshmi K. Tikoo, Aga Khan Foundation (India), New Delhi and Ashish Sen, VOICES, Bangalore (Experiences) Issued 21 March 2007

Available at: <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-10010701-public.pdf>

Experiences and advice on setting up and operating community radio and internet radio stations

Role of ICT in Local Content Creation, from Jocelyne Josiah, UNESCO, New Delhi (Experiences) Issued 29 March 2007

Available at: <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-13020701-public.pdf>

Experiences on the use of ICT for local content creation, the appropriate media and technology to use and the costs involved

Public Private Partnership in Community Media, from Manoj Jhalani, Government of Madhya Pradesh, New Delhi (Experiences) Issued 9 April 2007

Available at: <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-02030701-public.pdf>

Explores existing models of Public Private Partnerships in Community Media in India to create awareness on social issues

Wikipedia on Decentralization in India, from K. Rajasekharan, Kerala Institute of Local Administration (KILA), Thrissur (Experiences; Advice) Cross posted with Decentralization Community. Issued 23 April 2007

Available at: <http://www.solutionexchange-un.net.in/decn/cr-public/cr-se-decn-ictd-15030701-public.pdf>

Explores the idea of creating a Wikipedia on Decentralization, discussing the technical issues, funding requirements, drawbacks and content management

ICT Tools for Visually Impaired Persons from **Dipendra Manocha, National Association for the Blind- Delhi State Branch, New Delhi (Examples)**. Issued 30 April 2007

Available at: <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-19030701-public.pdf>

Shares information and examples on ICT Tools for Visually Impaired Persons, particularly on Optical Character Recognition and Text to Speech systems in Indian Languages

Education and Video, from **Jessica Mayberry, Video Volunteers, Ahmedabad (Examples; Experiences)** Cross posted with Education Community. Issued 14 May 2007

Available at: <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-ed-10040701-public.pdf>

Shares experiences of projects that have used video in the classroom in India and examples of effective use of ICT in education

Synergizing CSCs and Rural Post Offices, from **Arun Varma, Infrastructure Leasing and Financial Services Limited (IL&FS), New Delhi (Advice)** Issued 23 May 2007

Available at: <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-25040701-public.pdf>

Suggests ways of integrating rural Post Offices (POs) with CSCs so that CSCs can leverage on the rural presence and vast reach of POs, while POs can benefit from the technological edge of CSCs

ICTs for Traceability in Small Scale Agriculture, from **D. Rama Rao, National Academy of Agricultural Research Management (NAARM), Hyderabad (Experiences)** Cross posted with Food and Nutrition Community. Issued 29 May 2007

Available at: <http://www.solutionexchange-un.net.in/food/cr/cr-se-food-ictd-08050701.pdf>

Defines traceability, shares experiences and constraints towards its implementation and suggests various examples of ICT tools that could be replicated for agriculture traceability.

Use of ICT for NREGP Implementation, from Mandakini Devasher, UNDP, New Delhi (Examples) Cross posted with Work and Employment Community. Issued 30 May 2007

Available at: <http://www.solutionexchange-un.net.in/emp/cr-public/cr-se-emp-ictd-12050701-public.pdf>

Examples using ICTs in implementation of different government programs from point of view of potential applicability to NREGP, including tools to support effective implementation

Creating an Enabling Legal Framework for e-Governance, from Sunita Singh, Indian Railways, New Delhi (Advice) Issued 15 June 2007

Available at: <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-22050701-public.pdf>

Provides ideas and suggestions on the components of an ideal e-governance framework and factors that influence effectiveness

Communication Strategies for Disaster Preparedness and Warning, from Anshu Sharma, SEEDS, New Delhi (Examples; Experiences) Issued 18 June 2007. Cross posted with Disaster Management Community

Available at: <http://www.solutionexchange-un.net.in/drm/cr-public/cr-se-drm-ict-01050701-public.pdf>

Provides experiences and examples of using ICT, particularly FM radio, TV and internet, to provide disaster messaging before, during and after disasters

Preparing a Directory of Mailing-lists, from Frederick Noronha, BytesForAll, Goa (Referrals) Issued 25 June 2007

Available at: <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-07060701-public.pdf>

Shares mailing lists on various issues like ICTD, Knowledge Management, Gender, AIDS, Library and Information Services, from South Asia, especially those focusing on India

Spreading the ICT Revolution in Rural India, from Sagarika Bose, NASSCOM Foundation, New Delhi (Experiences; Examples) Issued 11 July 2007

Available at: <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-19060701-public.pdf>

Shares examples of successful ICTD projects in Rural India that moved beyond pilots; discussed projects that have been scaled up and replicated and others that have failed

Challenges in CopyLeft, from K. Madhuresh, Critical Action: Centre in Movement (CACIM), New Delhi (Advice; Referrals) Issued 2 August 2007

Available at: <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-02070701-public.pdf>

Explores options for open content and copyleft models of publishing in the context of copyright and intellectual property regimes, while addressing legal issues, authors' rights, cost recovery

Morality and Behaviour Change Communication, from Rina Dey, Core Polio USAID PLUS, Gurgaon (Advice) Cross posted with AIDS Community.

Issued 13 August 2007

Available at: <http://www.solutionexchange-un.net.in/aids/cr-public/cr-se-aids-ictd-250707-public.pdf>

Discusses ways to position sex education and BCC in condom promotion in consonance with Indian traditions and sensibilities

ICT-Based Distance Learning for Youth, from Yuri Misnikov, UNDP, Bratislava, Slovakia (Experiences; Referrals) Issued 14 August 2007

Available at: <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-18070701-public.pdf>

Provides information on distance learning projects and recommends experts and organizations working in ICT-based distance learning for young people in India and abroad

Community Multimedia Centres, from Jocelyn Josiah, UNESCO, New Delhi (Experiences; Examples) Issued 1 October 2007

Available at: <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-30090701-public.pdf>

Provides experiences and suggestions to help UNESCO design better models of Community Multimedia Centres (CMCs) in India and the rest of South Asia

Digital Literacy Initiatives in India, from Vikas Kanungo, The Society for Promotion of e-Governance, New Delhi (Referrals) Issued 20 September 2007

Available at: <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-10090701-public.pdf>

Information on ICT/digital literacy policy and initiatives in India; identifies existing policies and strategies for digital literacy and key implementing agencies, promoting digital literacy initiatives

Mobile Technology for e-Governance, from Ranjit Kumar Maiti, Panchayat and Rural Development Department, Government of West Bengal, Kolkata (Experiences) Cross posted with Decentralization Community. Issued 30 September 2007

Available at: <http://www.solutionexchange-un.net.in/decn/cr-public/cr-se-decn-30090701-public.pdf>

Shares experiences on the use of mobile technology for e-governance in India and other countries, especially in remote and inaccessible areas

Curricula for Agricultural Information Technology, from Surya Gunjal, Yashwantrao Chavan Maharashtra Open University (YCMOU), Nashik (Advice) Cross posted with Food and Nutrition Community. Issued 15 October 2007

Available at: <http://www.solutionexchange-un.net.in/food/cr-public/cr-se-food-ictd-20090701-public.pdf>

Provides advice on improving the curriculum of Agricultural Information Technology and recommends models from various institutions.

Free and Open Source Software in Schools, from Frederick Noronha, BytesForAll, Goa (Referrals) Issued 31 October 2007

Available at <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-08100701-public.pdf>

Provides recommendations on free and open source software (FLOSS) projects initiated in schools in South Asia and other parts of the world

E-CONSULTATION CONSOLIDATED REPLIES

Draft Technical Manual for Community Radio Operators by UNESCO, from Arvind Kumar, Ministry of Information and Broadcasting, Government of India, New Delhi (For Comments) Issued 31 August 2007

Available at: <http://www.solutionexchange-un.net.in/ictd/cr-public/cr-se-ictd-03080701-public.pdf>

Explains to community radio broadcasters the technical requirements of a community radio station and process of acquiring, installing and maintaining broadcast equipment



THE UNIVERSITY OF CHICAGO

Office of the Registrar
The University of Chicago
Chicago, Illinois 60637

Dear Mr. [Name]:

I am writing to you regarding the [Name] who is currently enrolled in the [Name] program. The [Name] has been identified as a [Name] and is currently [Name]. We are currently [Name] and are [Name] to [Name] the [Name] of the [Name] and are [Name] to [Name] the [Name] of the [Name].

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Contributed by
chandrahasi
18/05/2015

Member's Testimonials

"Keep up the good work! The ICTD Community's Consolidated Replies really help organizations such as ours as well as our partners with whom we share relevant pieces."

Rufina Fernandes

NASSCOM Foundation, New Delhi

"I am a regular reader of Solution Exchange. Unlike other discussion forums what I like the most about the exchange is the final compilation of work which is done by the moderators. This acts as knowledge repository which can be accessed anytime we feel like."

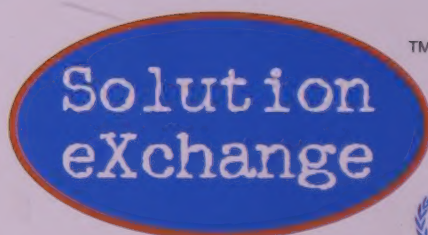
Varun Rattan Singh

Community Friendly Movement, New Delhi

"I think the Solution Exchange is a great space because of the creative energies of people like you. We never stop admiring how a simple idea has grown so steadily and meaningfully".

Anita Gurumurthy

IT for Change, Bangalore



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